Syria

SYRIAN ARAB REPUBLIC
Ministry of Planning

THE SYRIAN FIVE-YEAR PLAN FOR ECONOMIC AND SOCIAL DEVELOPMENT

1960/1961 - 1964/1965

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PART ONE

THE MAIN LINES OF ECONOMIC AND SOCIAL DEVELOPMENT

OF

THE FIRST FIVE-YEAR PLAN

1960/1961 - 1964/1965

THE MAIN LINES OF ECONOMIC AND SOCIAL DEVELOPMENT
THE FIRST FIVE-YEAR PLAN
1960/1961 - 1964/1965

The aim of each community is to obtain a decent standard of living for its members. The community may achieve this by mobilizing its total wealth and resources and directing them towards the production of goods and services that aims at raising the per capita income.

In as far as the increase in per capita income depends on the increase in the national product, this product is affected by many factors, the most important of which are: labor, capital, natural resources and the social and technical conditions convenient to the community. In addition, some particular factors are sometimes included such as weather changes in a country like Syria. As a matter of fact, it is impossible for an economy to progress in the field of development unless all these factors are co-ordinated and well prepared.

The value of these economic factors at any time, is the aggregate of its development in a number of years. For instance, the productive capital in a particular year is the aggregate of the community's savings which were reserved from past income for the purpose of investing in strengthening the productive capacity.

The main aim of the development plan in the Syrian Arab Republic is to start with the development process, which aims at raising the standard of living and widening the horizons for greater opportunities and a better life.

In order that the development program should progress unhindered, it is inevitable that the grounds of social relations should be reviewed in order to build a better social and economic system. It should always be kept in mind that solid co-operation should be set up between the technical basis of planning and its social effects, while necessity forces us to concentrate our efforts on urgent problems, planning requires that the community should take a longer view of social development, viewing it as an entity. The achievement of this development should follow a set plan step by step.

Although it is clear that planning and related subjects are gaining acceptance in Syria and Egypt, the handling of economic problems and social changes requires a new step in designing projects and the method of their execution. Planning requires a great understanding of all subjects for which plans and projects are to be designed, as well as the creation of an administration to work for the fulfillment of the planned aims. Planning is a necessary step in finding solutions to harmonize different problems and coordinate between means and aims and in this it differs from spontaneous action. None the less, actual policy cannot be executed merely according to a set of theories, but must undergo particular governmental and national tests. In spite of the big advance in economics and social sciences in the last few decades, our knowledge about social influences and human motivations is still limited. It is not always possible to determine that specific causes entail specific fixed results. Also it is impossible to forecast the reaction of individuals or groups to different motivations.

Poverty and unequality of chances, income, and wealth are all affairs calling for carrying out an economic and social change in the present circumstances. Poverty cannot be eliminated by the mere redistribution of the present wealth. Nor can a program aiming at raising the standard of production eliminate the existing differences. The two methods should be followed jointly so as to prepare a proper atmosphere for progress.

The problem is not merely to stimulate economic activity within the boundary of the economic and social framework existing at present, for it is necessary to change this framework in order to enable it to provide basic wants such as the right to work, to earn a decent income, education and insurance against sickness, old age and disability. All this could be achieved by mobilizing the resources of the State and distributing them in such a way that would prevent these resources from falling into the hands of the few. This is what the development plan should aim to achieve.

The national plan should express a basic wish shared by all members of the community. This communal wish is the motivating power of the plan. The fulfillment of the national plan requires the utmost governmental attention and the co-operation of all public, regional and local bodies within an organized framework. All efforts - whether governmental or otherwise - which are carried out by the bodies assigned for development all over the country should be co-ordinated according to the plan. These efforts should also generate a continuous dynamic activity in the national economy in order to raise the living standard of Syria and Egypt to higher levels of living, education and morality and, at the same time, help to lessen the severity of economic hazards which challenge the economy from time to time.

Doubling the national income or improving the standard of living is not an aim in itself, but a means and a basic condition for the realization of the socialist democratic co-operative society, a tool for raising the moral, cultural and ideological values, and a means of providing the services connected with those values. The aim of economic development is to increase the productive capacity of the community in such a way that it creates the appropriate atmosphere for the growth of these high values and gives every individual the opportunity for self-fulfillment.

In conclusion, the aims of economic development should be derived from the social objectives which are the creation of a socialist, democratic, co-operative society.

CHAPTER I

THE INVESTMENT PROGRAM IN THE NEXT FIVE YEARS

The President of the Republic has defined the objective of economic development in Syria as doubling the national income during the next ten years. In other words, the national income in the Syrian Arab Republic which reaches an average of L.S. 2,400 million should be raised to L.S. 4,800 million by the tenth year. This requires that the rate of the development of the national income be 7.2 per cent yearly, that is, a per capita income increase of 4.7 per cent during the next ten years.

The most important conditions that should be met when establishing the rate of growth are the following:

- that development should take place without inflationary or deflationary effects which would damage the whole national economy;
- that the plan should work for a balanced development in which economic crises are minimized. By so doing, the Syrian economy could be safeguarded against its notorious wide fluctuations in production and income owing to the natural conditions and fluctuations of international prices;
- that the plan should work for achieving the policy of the Government in realizing the socialist, democratic, co-operative society by improving the distribution of income among the citizens.

It is clear that the Syrian economy has advanced to a large extent in the last few years, and the main reason for this advance is the amassing of wealth and savings during the Second World War, the rise of agricultural prices during the Korean War and the continuation of good harvests. A large share of the savings accumulated by individuals in recent years, has been used in reclamation of land, setting up of industries, improving communications, building houses and other activities, all of which have made for a noticeable increment in the national income in a short period of time.

However, the capability of individuals to sustain this horizontal expansion is nearing an end. Also, the existing irrigation projects have exhausted the supply of underground water in some places, and, some industries have reached the level at which production is equal to local consumption.

Thus, it seems that the economic leap forward taken in the last few years has reached its maximum and that it has become necessary to take positive measures in order to increase the factors of production (manpower, land, water, etc...). New productive forces must be set up in irrigation, agriculture, industry, communication, etc..., which will increase production on the one hand and stimulate purchasing power and demand on the other hand. Otherwise, the Syrian economy is under the threat of stagnation at the present level.

It is clear that the plan should aim at realizing the rate of growth which the President has defined, which is not easily done. Both public and private sectors should work to achieve this goal in an atmosphere where confidence in the stability of the Syrian economy would enable both savers and investors to increase their savings and investments.

In order to double the national income in ten years, the necessary investment during the next five years has been estimated at L.S. 2,720 million.

On the basis of continuous studies, it has become possible to discover the best ways for using this investment in such a way as to yield the maximum productive capacity, and make for increasing the productive and saving capacity of the Syrian economy so that it will fulfill the Five-Year Program and face the difficulties that may arise in its execution.

Table (1) contains a summary of the program of investment in the various economic sectors distributed between the public and private sector.

Table (2) includes the yearly distribution of investments in the most important projects distributed between foreign and local currency.

TABLE (1)

Investment Program During the Next Five Years 1960/1961 - 1964/1965

(L.S. Million)

		Investments			
	Economic Sectors	Public Sector	Private Sector	Total	Per cent
(1)	Irrigation and land reclamation	780	50	830	30.5
	1 - Irrigation	640			
	2 - Land reclamation	140			
(2)	Agriculture	95	175	270	9.9
	1 - Seeding	2.5			
	2 - Agricultural guidance and plant protection	5.4			
	3 - Horticulture and forests	10.3			
	4 - Animal breeding	18.3			
	5 - Laboratories, research and agricultural education and training	12.8			
	6 - Silos and centers of seed classification	45.7			
(3)	Industry, electricity, mining and petroleum			509	18.7
	1 - Electricity			63	
	2 - Mining and petroleum			241	
	3 - Nitrate fertilizer			90	
	4 - Tobacco			10	
	5 - Others			105	
(4)	Transport and communications	387	150	537	19.7
	1 - Roads	60			
	2 - Bridges	14			
	3 - Railways	173			
	4 - Airports	40			
	5 - Tartus Port	33			
	6 - Mail	4			
	7 - Wireless and telecommunications	55			
	8 - Radio station and television	8			
(5)	Education	100		100	3.7
	1 - Various stages of education	36.2			
	2 - High Schools	8.8			
	3 - School buildings	35			
	4 - University education and student missions	20			

Table (1) (cont'd.)

		Investments			
	Economic Sectors	**Public Sector**	**Private Sector**	**Total**	**Per cent**
(6)	Health	46	10	56	2.1
(7)	Public utilities and tourism	32		32	1.2
(8)	Housing	15	245	260	9.5
(9)	Social affairs	18		18	0.7
(10)	Entertainment		11	11	0.4
(11)	Laboratories, training, research	7		7	0.5
(12)	Change in inventory		90	90	3.3
	Total	1,720	1,000	2,720	100 %

TABLE (2)

Yearly Distribution of Investments in Major Projects, 1960/1961 - 1964/1965

(L.S. Million)

	1960/1961 Total	1961/1962 Total	1962/1963 Total
Irrigation - land reclamation	81.000	140.000	200.400
Agriculture	9.854	9.403	7.360
Silos and wells	8.500	9.750	11.000
Thermo-electricity	13.100	17.100	12.100
Mining and geology	7.700	6.800	7.100
Petroleum projects	16.400	54.700	71.400
Nitrate fertilizers	1.100	21.780	21.780
Roads	8.000	13.500	13.000
Bridges	2.000	3.000	3.000
Railways	30.000	35.000	37.000
Airports	4.000	16.740	8.295
Wireless - telecommunications	11.885	21.750	11.600
Mail	940	560	750
Radio and television	2.600	1.500	1.300
Port of Tartus	6.800	6.100	6.200
Various educational stages	7.800	7.000	7.000
School buildings	7.000	7.000	7.000
Higher education	2.950	1.400	1.450
University education	1.350	4.600	4.600

Table (2) (cont'd.)

	1963/1964	1964/1965	Total		
	Total	Total	Local	Foreign	Total
Irrigation - land reclamation	194.600	164.000	637.200	142.800	780.000
Agriculture	5.318	4.283	24.345	11.873	36.218
Silos and wells	8.500	6.939	27.500	17.189	44.689
Thermo-electricity	12.200	8.800	15.300	48.000	63.300
Mining and geology	4.900	3.500	20.100	9.900	30.000
Petroleum projects	38.000	30.500	40.800	170.200	211.000
Nitrate fertilizers	20.950	24.870	32.080	58.400	90.480
Roads	13.000	12.500	36.000	24.000	60.000
Bridges	3.000	3.000	10.000	4.000	14.000
Railways	38.000	33.000	93.000	80.000	173.000
Airports	10.305	660	28.000	12.000	40.000
Wireless - tele-communications	5.300	4.300	20.800	34.035	54.835
Mail	875	875	2.500	1.500	4.000
Radio and television	1.300	1.300	5.200	2.800	8.000
Port of Tartus	7.300	6.900	17.900	14.900	32.800
Various educational stages	6.800	7.600	27.500	8.700	36.200
School buildings	7.000	7.000	25.000	10.000	35.000
Higher education	1.500	1.500	6.300	2.500	8.800
University education	4.600	4.850	13.000	7.000	20.000

The figures of the investment program are compiled on the basis of balancing supply and demand without inflationary effects.

It is clear from the program that the factor dominating the distribution of investment is the wish to deal with the apparent imbalance in the factors of production of the Syrian Arab Republic (land, water, communication and skill). It is intended as well that this imbalance should be corrected quickly and this is considered as a major step in development which will pave the way for the execution of the second Five-Year Plan.

It is clear from this program too, that the State is strongly determined to advance forward in all directions in order to realize co-ordinated and continuous economic development, and to create a socialist, democratic, co-operative society through providing services.

To some extent, there is a reason for preferring production projects to other projects. The share of the irrigation, agriculture, industry and communications projects has reached the sum of 2,146 million Syrian pounds for the forthcoming five years, that is, 78.8 per cent of the total investment. It is considered that the productive projects are the mainspring of raising income and production. From this increase in income, services can be increased.

In other words, the investment program looks at the services projects as an objective, and the production projects as a means for realising this objective. In general, the programming of the production projects precedes that of the services projects.

Among the production projects, the irrigation sector has been allotted L.S. 830 million, that is, 30.5 per cent of the total investment. The share of the public sector for irrigation projects is L.S. 780 million, in addition to L.S. 50 million from the private sector

The agricultural sector has been allotted L.S. 270 million for vertical expansion in fertilizers, selected seeds, silos, etc. Out of this sum, L.S. 175 million is the share of the private sector, most of which is working capital provided by the banking system and co-operative societies. Syrian agriculture is, in this stage, in great need for agricultural credit for improving agricultural practices by increasing the use of fertilizers, selected seeds, machinery and improved stocks.

Thus, the total investment allotted for the agricultural sector horizontally and vertically is 1,100 million Syrian pounds, divided between the private and public sectors, that is, 40.4 per cent of the total investment.

It is noticeable that agricultural projects (horizontal and vertical) have been placed at the top of the development projects and have received the largest share of the five-year investment program, especially public investment. The reasons for this are:

1. because of the desire to eliminate the great fluctuations which are the main characteristics of Syrian agriculture owing to vagaries in the weather and to provide a maximum of stability and continuity of production by adding to the irrigation network;

2. because agricultural production provides the greatest opportunity for increasing the production of goods, and because it is considered as the basis for the advance of industry and commerce and the increase of the individual purchasing power;

3. because vertical expansion will lead to an increase in agricultural productivity with a smaller number of workers. Thus a large number of workers is set free to be used in the new agricultural expansion, industry and in other sectors;

4. because agricultural expansion is the most important factor in improving the Syrian balance of payments.

The Governmental agricultural projects in the Five-Year Plan include mainly the projects of seeding for wheat, barley and cotton; agricultural guidance and plant protection; horticulture and forests; animal breeding; silos and centers of seed classification; laboratories; research; and, agricultural education.

In choosing Governmental irrigation projects, the following points have been taken into consideration:

- the completion of the projects already under construction;

- the preferment of projects which lead to the expansion of the cultivated land in the shortest period;

- the preferment of projects for which factors of production such as land, capital and water are at hand but which are in need of either agricultural guidance of some construction work such as laying pipes for bringing water from nearly springs which are not in productive use.

The sum of L.S. 50 million could also be used so that the private sector could spend it on repairing springs, wells and drainage and buying pumps and other equipment necessary for irrigation works.

Next in importance is the transport and communications sector which links the parts of the Syrian Arab Republic by roads, railways, telegraph and telephones. This section is allotted L.S. 387 million out of the share of the public sector, L.S. 74 million of which is for roads and bridges, L.S. 59 million for post, telegraph and telephone and L.S. 173 million for railways. In addition, L.S. 150 million has been allotted from the private sector for means of communication such as cars, trucks, civil airplanes, etc.. Thus, the total investment in this sector is about L.S. 537 million, that is, 19.7 per cent of the total investment.

The railway and Euphrates projects have been scheduled for joint completion because the former is not fruitful without the latter.

The sector of industry, electricity and mining has been allotted L.S. 509 million, divided between both public and private sectors, that is, 18.7 per cent of the total investment for the purpose of laying down the industrial base necessary for industrialization, through the search for minerals, extracting and refining petroleum, and constructing the basic industries such as the phosphoric and nitrate fertilizer industries, and the chemical and engineering industries. In allotting industrial investment, it should be noticed that the private sector is given a wide scope.

The program has taken into consideration as well, the popularizing of services for which the sum of L.S. 574 million has been allotted, that is, 21.2 per cent divided among education, health, general services, housing and social and educational services etc... in addition to change in inventory.

CHAPTER II

INCOME AND PRODUCTION TARGETS

This investment program aims in general at increasing the national income in the amount of L.S. 960 million in 1964/1965. The national income will grow gradually from L.S. 2.400 million (the basic figure) to L.S. 3.360 million at the rate of 40 per cent in the fifth year, or at an average rate of 7.9 per cent per annum.

The total private consumption will go up from L.S. 1.725 million (the basic figure) to L.S. 2.320 million at the rate of 34.5 per cent in the fifth year, or at an average rate of 6.1 per cent per annum.

According to this rate of development, the net total savings during the five years will reach L.S. 1.950 million. This means an increase in the annual savings, gradually, from 11.5 per cent to 14 per cent in the fifth year. In order to ensure this required volume, the loans from foreign aid or other sources would reach L.S. 770 million in five years.

As for the individual, his average increase in income will be from L.S. 527 per year to L.S. 656, or 24.5 per cent in the fifth year, or at an average rate of 4.5 per cent per annum. His expenditures on consumption will go up from L.S. 379 to L.S. 453 per annum, or 19.5 per cent in the fifth year, and at an average rate of 3.5 per cent per annum.

Table (3) indicates the estimated development of population, income and its usage in savings and consumption.

Table(4)indicates the development of income in each section between the base year and the fifth year.

Table (5) indicates the development of private consumption, total and per capita, in each section of consumption expenditures between the base year and the fifth year.

Table (6) indicates the production targets for the most important commodities and services, compared with present average rates.

TABLE (3)

Estimated Development of Population and Income with Savings and Consumption in Five Years 1960/1961 - 1964/1965

Year	Population (Mil.)	Income (Mil.)	Saving (Mil.)	Gov't Expenses (Mil.)	Private Expenses (Mil.)	Per Capita Income (L.S.)	Per Capita Consumption (L.S.)
Base Year	4,550	2,400	275	400	1,725	527	379
60/61	4,660	2.566	310	420	1,836	551	394
61/62	4,770	2,743	345	450	1,984	575	408
62/63	4,885	2,932	385	480	2,067	600	423
63/64	5,000	3,134	430	520	2,184	627	437
64/65	5,120	3,360	480	560	2,320	656	453

TABLE (4)

Net National Income in Base Year and Fifth Year (1964/1965) According to Economic Sectors

(L.S. Million)

Sector	Base Year Figure		Fifth Year		Increase	
	Income	Rate %	Income	Rate %	Income	Rate %
Agriculture	965	40.2	1,275	58	310	32
Industry	275	11.4	425	12.7	150	55
Construction and building	101	4.2	210	6.2	109	106
Rent	141	5.9	177	5.3	36	26
Finance	45	1.9	63	1.9	18	40
Government	179	7.5	242	7.2	63	35
Transport and communications	144	6.0	209	6.2	65	45
Commerce	386	16.1	532	15.8	146	38
Services	164	6.8	227	6.7	63	39
Total:	2,400	100.0	3,360	100.0	960	40

TABLE (5)

Private Consumption in Base Year and in the Fifth Year, 1964/1965

Consumption	Base Year Population Consumption in millions	 Per capita consumption in L.S.	Fifth Year Population consumption in millions	 Per capita consumption in L.S.
Foodstuffs				
Cereals	360	79.1	445	87
Legumes	8	1.8	11	2.1
Vegetables	52	11.4	66	13
Fruits	143	31.4	210	41
Dairy products	141	31	200	39
Meat	57	12.5	77	15
Oils	50	11	64	12.5
Sugar	60	13.2	78	15.2
Fabricated foods	17	3.7	23	4.5
Total foodstuffs	888	195.1	1,174	229.3
Other consumption goods				
Tobacco	84	18.4	107	21
Alcohol	7	1.5	10	2
Clothes	230	50.6	314	61.3
Shoes	14	3.1	19	3.8
Furniture	9	2	13	2.5
Entertainment	22	4.8	31	6
Education & publication	52	11.4	80	15.6
Medicine & treatment	52	11.4	79	15.4
Soap and cosmetics	22	4.8	31	6
Personal items	17	3.7	21	4.1
Transportation, personal	45	10	62	12.1
Household appliances	46	10.1	73	14.2
Rent	141	31	187	34.8
Fuels and electricity	58	12.8	75	14.6
Personal services	38	8.3	52	10.3
Total of other consumption goods	837	183.9	1,146	223.7
Grand Total	1,725	379	2,320	453

TABLE (6)

Production Target of most Important Commodities and Services in the Fifth Year, 1964/1965 Compared with Present Average Rates

Sector	Unit	Base Year	Fifth Year
1 - Irrigation and Agriculture			
Irrigated area	000 hcts.	500	750
Wheat	000 ton	875	1,480
Barley	000 ton	435	536
Cotton	000 ton	270	444
Sugar beets	000 ton	91	563
Tobacco	000 ton	7.4	17
Seedings	million	1.25	2.2
Forest seedings	million	1.7	5
Stud bulls	head	-	170
2 - Thermo-electricity			
Installed capacity	000 Kw	124	269
Generated power	million KWH	300	700
3 - Crude Oil	million ton	-	2
4 - Manufacturing Industries			
Cement	000 ton	450	700
Nitrate fortilizers	000 ton	-	120
Super phosphate fertilizers	000 ton	-	50
Sulphuric acid	000 ton	-	25
Caustic soda	000 ton	-	7.5
Cotton yarn	ton	10.7	25
Wool yarn	ton	322	400
Cotton and wool textiles	ton	22,280	30,000
Artificial silk	ton	3,500	4,830
Sugar	ton	61,000	79,000
Soap	ton	17,000	24,000
Vegetable oil	ton	40,000	51,000
Margarine	ton	2,500	3,000
Glass	ton	23,400	29,250
Matches	000 carton	736	960
5 - Transport and Communications			
Railroads :			
Kamishli-Latakia	Under construction		
Freight	mil.ton.km.	-	1,000
Railroad engines	engine	-	26
Freight cars	car	-	1,250

Table (6) (cont'd.)

Sector	Unit	Base Year	Fifth Year
Roads :			
Asphalted roads	km.	4,000	5,450
Improvement and enlargement of network	km.	400	1,600
Harbors :			
Tartus harbor capacity	000 ton	-	250
Post, Telegraph and Telephone :			
Postal Offices	Office	60	108
Telephone	thousands	55	90
6 - Education			
Primary education	000 students	357	446
Junior education	000 students	24	48
Senior education	000 students	10	14
Vocational education	000 students	5	17
Teachers colleges	000 students	1.7	3.5
7 - Health			
Doctors	head	1,000	13,000
Nurses	head	500	1,000
Mid-wives	head	225	1,000
Beds in public hospitals	head	2,930	4,930
8 - Housing			
Increase in housing units	000 unit	-	25

CHAPTER III

EMPLOYMENT

Table (7) indicates the development of population and man-power between the base year and the fifth year of the development plan.

TABLE (7)

Estimate of Population and the Labor Force
1960/1961 - 1964/1965
(Figures in thousands)

	1960/1961	1964/1965	Increase
Population	4,550	5,120	570
Labor force in agriculture	820	895	75
Labor force in construction and industry	110	185	75
Labor force in services	600	640	40
Total labor force	1,530	1,720	190

These figures naturally are estimated since there are no statistics dividing the population according to age, sex, profession, etc...

The population of Syria today can be estimated at about 4.5 million, and the number of persons that can be included in the labor force as 1,530,000 on the basis of age, sex and social conditions presently prevailing, after having excluded the estimated figures of the armed forces and others who do not enter the labor market, such as students.

In the fifth year, the total population of Syria will approximately reach 5.120 million on the basis of an average annual increase of 2.4 per cent. The labor force will go up to 1,720,000 with an increase of 190,000.

It is, however, imperative that we point out that the labor force is not totally used, as the drought in the last three years undoubtedly affected employment, particularly in agriculture.

Consequently, the labor force available for work, will increase by over 190,000, by the number of those who are presently, totally or partially, unemployed.

It is clear that the extensive increases in the investment program will require an equal increase in the demand for labor in all sectors.

In the field of agriculture, there will be need for 175,000 workers, of which 100,000 are presently unemployed, totally or partially, with the rest coming from the annual increases.

The industrialization process will also need not less than 40,000 additional workers in addition to giving work opportunities to not less than 40,000 workers. A large number of these workers will be required in construction and building in various sectors. Irrigation plans alone will require 35,000 workers annually in addition to similar numbers for work in construction and building in other sectors.

The employment of the labor force is one of the objectives of this plan, not only through the increase of volume of investment in construction, buildings and lands, but through the spread of the development into various sectors and the increase of industrial and agricultural production.

The measures taken by the plan are varying the production in the different sectors; the geographical distribution of construction, building and industries; easing the mobility of labor and finding jobs by opening new roads, building houses and general services; spreading education and agricultural and industrial training centers; building infirmaries and hospitals; and establishing social services in various parts of the country. All these measures should be looked at as factors in a unified program aiming at creating and providing new opportunities for work and encouraging workers to take these jobs and to increase their productivity.

The development plan therefore aims at checking unemployment in the rural areas and in cities and at employing the labor force which is increased annually through the increase in population.

CHAPTER IV

FINANCING THE PLAN

The financial revenues available for development in the Syrian Arab Republic during the Five-Year Plan, (1960/1961 - 1964/1965) are estimated at L.S. 2,720 million, of which L.S. 1,720 million is expected from the public sector and the rest from the savings of private sector.

These estimates are approximate and must be evaluated yearly in the light of the economic and public conditions of the country, such as the agricultural harvest and other factors that may affect the development of these revenues.

The following is a table showing the funds available for development during the Five-Year Plan:

TABLE (8)

Sources of Income for the Public Sector
1960/1961 - 1964/1965
(L.S. Million)

	Revenues in Five Years
1 - Surplus available for development from the General Budget	420
2 - Revenues from municipalities	110
3 - Savings from revenues of Public Debt Fund	98
4 - Surplus from government organizations	131
5 - Surplus from State Domain Royalties	26
6 - Surplus from Social Insurance Institution	145
7 - Surplus from exploitation of petroleum and mines	100
8 - Other various sources	50
9 - Foreign loans and aid	640
Total	1,720

The following outlines what is meant by and the composition of each of these sources.

Surplus from General Budget

This surplus constitutes the difference between ordinary revenues and total expenditures of organizations in non-development plans plus the definite expenditures of development organizations. What is meant by non-development expenses are the expenses incurred during the Five-Year Development Plan with the exception of expenses made for construction, building and other great investment tools and financial investment (if there is any) because these expenses are included in the development expenses.

What is meant by definite expenditures of development organizations are the expenses of these organizations on the basis of service in the first year of the plan. The current expenses for additional services and expenses of capital investment are considered development expenditures.

The surplus available from the General Budget was estimated on the basis of the present composition of the income tax system in the Syrian Arab Republic without effecting any increase, creating new taxes, increasing the efficiency of tax levying or combatting smuggling of funds or tax evasion. Naturally, the adoption of such measures during the Five-Year Development Plan would increase such surplus.

The surplus available from the General Budget was estimated on the basis of the increase in the development ratio as a result of the execution of the five-year development plan. It is estimated at L.S. 420 million.

Revenues from Municipalities

Total revenues are estimated at L.S. 110 million and this surplus will be spent on municipal projects.

Surplus from Public Debt Fund

Revenues are estimated at L.S. 98 million during the next five years. Sources are:

Reimbursement of loans.

Net revenues from royalties, exploitations, interests and loans.

Internal loans.

Revenues from reimbursements are estimated during the five years at L.S. 53.1 million.

Revenues from the second source are estimated at L.S. 28 million. They are the profits attained by the Central Bank, the Government's share from Latakia Port profits, and the interest of loans after having deducted the commitments of the Debt Fund.

As for the third source of revenues, they are estimated at L.S. 17 million in five years, and distributed as follows:

L.S. 7 million, the subscription of banks, at the rate of 7.5 per cent of their deposits, and in the amount of compulsory reserves.

L.S. 10 million, subscription of individuals in Treasury Bonds.

Other Sources

These are the revenues from royalties of the State Domain and State Properties, from the surplus of State Organizations and Social Insurance Institution, and from the exploitation of petroleum and mines, as well as from aids and foreign loans. They are estimated at L.S. 1,092 million.

CHAPTER V

REVENUES IN HARD CURRENCIES

The estimate of the Country's revenues of hard currencies encouter various difficulties, such as:

- the influence of agriculture, which in turn depends upon weather conditions, on the economy of the Country. Crops make up a large share of the Country's exports which in turn contribute a large share of its revenues of hard currencies;
- the lack of statistics regarding many sources of income of foreign currencies, such as the expenditures of tourists and foreigners in Syria, the expenses of Syrians abroad, aids of emigrants and revenues from transit trade.
- non-organization and instability of revenues from transit trade and tourism.

For these reasons, the estimates can be considered as approximate and need to be re-evaluated every year in the light of the economic and general conditions of the Country and in the light of the new statistics made available.

Table (9) shows the foreign currency available for development during the next five years.

TABLE (9)

Estimate of Foreign Currency Revenues
in the Next Five Years
1960/1961 - 1964/1965
(L.S. Million)

Foreign Currency	Estimate
1 - Visible and Invisible Revenues	
Experts	2,825
Royalties and expenditures of oil companies	800
Net profits from transit trade	100
Transfers from Syrians abroad	150
Profits of exchange of foreign currencies	25
Net expenditures of government	25
Aids to Palestinian refugees	35
Net from tourism	25
2 - Foreign Loans and Aid	640
Total	4,625

The following is a brief explanation of each of these revenues:

Exports

The following is a table showing the total exports of the Syrian Arab Republic in the five years, 1955-1959, according to important commodities:

TABLE (10)

Exports in Five Years
1955 - 1959
(L.S. Million)

Commodity	1955	1956	1957	1958	1959	Total	Average
Raw cotton	233.8	148.6	188.6	170.7	168.5	910.1	182
Cotton seed	16	9	14.4	9.7	9.9	59	11.8
Wheat	10.6	56.7	88.6	44.7	0.1	200.7	40.1
Barley	7.5	65.3	52	12.9	-	137.7	27.5
Tobacco	1.7	1.6	1	2	1	7.3	1.5
Vegetables	11.5	20.6	19.7	16.1	10.5	78.4	15.7
Fruits	5.2	5.6	6.3	7	12.2	36.3	7.3
Lentils	4.6	12	12.6	8.2	4.8	42.2	8.4
Livestock	36.7	32.7	6.6	12.9	17.1	106	21.2
Dairy products	10.1	11.8	14.8	11.8	4.8	53.3	10.6
Wool, silk, & goat hair	33.8	34.6	30.8	27.9	36.3	163.4	32.7
Textiles	34.6	38.3	41.2	40	64.3	218.4	43.7
Soap	2.8	4.6	5.1	4.7	2.2	19.4	3.9
Olive oil	2.9	11.9	3	0.2	0.4	18.4	3.7
Apricot paste	3	2.8	2	1	2.3	11.1	2.2
Others	58.7	59.8	61.2	66.9	90.2	336.9	67.4
Total	473.5	515.9	547.9	436.6	424.6	2398.6	479.7

From Table (10) it can be seen that the average exports of the Syrian Arab Republic during these five years was L.S. 480 million.

In the light of the production target for the fifth year, and consumption targets, the surplus available for export in the fifth year is shown in the following table with respect to most important commodities.

TABLE (11)

Estimated surplus for Export of Most Important Commodities in the Fifth Year 1964-1965

	Local Production 1,000 tons		Consumption 1,000 tons		Exports 1,000 tons		
Commodity	Base Year	Fifth Year	Base Year	Fifth Year	Base Year	Fifth Year	Exports LS Million
Ginned cotton	97	158	13	28	84	130	280
Wheat	875	1,480	680	900	195	300*	95
Barley	435	535	200	235	235	300	45
Cotton yarn	11	25	11	13	-	12	40
Cotton seed	150	820	100	130	50	150	30
Tobacco	6.5	14.6	4	5.1	2.5	9.5	19
Total							509
Other commodities							211
Total Exports							720

As for the estimate of total exports during the next five years, it should be considered that the realization of the production target in the development plan will not be accomplished in full except after the lapse of a period in order to benefit from the production projects which will be executed within the plan. The surplus for exports will be made available after the second year and will increase as of the third year when most of the projects in the field of agriculture and irrigation will have been completed. The marketing of surplus goods in foreign markets requires additional efforts such as exploring new markets and the conclusion of trade and payment agreements with foreign countries, and this takes time.

As for exports to the United Arab Republic, the export of tobacco will be achieved more quickly than other commodities.

In the light of these considerations and when circumstances prove satisfactory, the total exports within the next five years can be estimated at L.S. 2,825 million.

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*) After retention of 200,000 tons for storage to meet bad harvest years.

Royalties and Expenses of Petroleum Companies

Royalties are estimated at L.S. 800 million on the basis of the estimated increase of oil transferred by pipe line through Syria. This amount includes the expenditures of the oil companies in foreign currencies.

Transit Trade

Revenues from transit trade mean the income which the Syrian citizens attain from trade with all kinds of goods which enter the Syrian Arab Republic and are re-exported from the free zone. Petroleum is, however, excluded inasmuch as the revenues are included under royalties.

Income from transit trade is estimated within the next five years at L.S. 100 million.

Transfers from Syrians abroad

The money transfers of Syrians abroad within the next five years are estimated at L.S. 150 million,at the rate of L.S. 30 million every year. Those include the money transfers of emigrants to relatives in the Syrian Arab Republic and the transfers of employees and tradesmen living abroad.

Other Sources

These include the profits which the State attains from exchange of foreign currencies, expenditures of international and foreign organizations in the Syrian Arab Republic and from tourists.

The total income is estimated at L.S. 105 million in five years.

Foreign Loans and Aids

The revenues under this subject are the same figures appearing in the program of investment, namely L.S. 640 million.

Expenditures of Foreign Currencies

The expenditures of foreign currencies are divided into five categories, namely:

1. Necessary private consumption,
2. Raw materials for current production in the field of agriculture and industry, etc...,
3. Formation of capital,
4. Repayment of foreign loan installment and interest,
5. Formation of a reserve to meet increase in domestic payment and changes in the balance of payments.

Following is table (12) shows these expenditures:

TABLE (12)

Expenditures of Foreign Exchange in Five Years, 1960/1961 - 1964/1965

(L.S. Million)

Uses	Estimates
Private consumption	1,800
Raw materials	1,000
Formation of Capital	1,225
Repayment of foreign loans	350
Reserve	250
Total	4,625

The following table shows the requirements for funds, in local and foreign currencies, for investment in five years.

TABLE (13)

Requirements for Funds in Five Years 1960/1961 - 1964/1965

(L.S. Million)

	Public Sector		
Sector	Local	Foreign	Total
Irrigation and agrarian reform	637	143	780
Agriculture and silos	60	35	95
Industry, electricity, mining and petroleum			
Transport and communication	213	174	387
Education	72	28	100
Service and changes in inventory	50	68	118

Table (13) (Cont'd.)

Sector	Private Sector			Total		
	Local	Foreign	Total	Local	Foreign	Total
Irrigation and agrarian reform	40	10	50	677	153	830
Agriculture and silos	90	85	175	150	120	270
Industry, electricity mining and petroleum				148	361	509
Transport and communication	25	125	150	238	299	537
Education	-	-	-	72	28	100
Service and changes in inventory	160	196	356	210	264	474
Total				1,495	1,225	2,720

PART TWO

AGRICULTURE

Chapter I

AGRICULTURAL DEVELOPMENT

It is clear from past records that increment of agricultural production has always been the most important factor leading to the full prosperity of the economy. Prosperity begins with agriculture then spreads to all other economic sectors and will lead to the increase of investments in industry, building and construction, and will augment the country's revenues of foreign currencies and governmental revenues. Thus the population will enjoy higher incomes.

It is no wonder, therefore, that agriculture occupies the place of greatest importance in development programs since it is considered the hub around which all economic advancement revolves and upon which rests any improvement in the standard of living of the masses, especially in the towns and the country.

Harvests are still subject to severe fluctuations according to the abundance or scarcity of the rainfall. Therefore, it is of the utmost importance to ensure stability of agricultural production, especially in the present circumstances under which the plan is designed and where three consecutive bad years have affected agricultural production and exports.

In this vast constructive stage which includes the construction of dams, roads, public works and industrialization, huge sums of money would be pumped into the economy and would result in a large increase in purchasing power. In order to protect the country from a general rise in prices, especially prices of consumer goods and foodstuffs which is bound to happen as a result of the increase in demand backed by the increment of the purchasing power of workers in both town and country, it is imperative that measures should be taken to increase agricultural production immediately.

The agricultural development plan depends on two basic elements:

First: Increasing the irrigated area,
Second: Increasing the yield per hectare.

Irrigation projects will add to the irrigated area about 250,000 hectares at the fifth year, of which about 190,000 hectares will be planted, chiefly in lands which were not cultivated before. In addition, a group of wells in the desert which will provide water for cattle, will be constructed.

The increase of vertical production, namely the increase of the yield of the hectare, is not less important than horizontal production. The plan of increasing vertical agricultural production is based on the following:

1. Distribution of products on the basis of an agricultural rotation according to each district,
2. Defining production objectives,
3. Connecting these production objectives with scientific methods, such as germination of selected seeds, increasing the use of fertilizers and combatting diseases. It is also important to find practical ways and means to persuade farmers to follow these policies and put pressure on them to avail themselves of credit facilities, seeds and agricultural guidance. There should be an annually defined agricultural plan for each county and village, defining the productive objectives, the agricultural rotation, and the means of realizing these objectives through credit facilities, fertilization, etc...

Investment Program

In view of the non-availability of a sufficient quantity of technical, material and financial revenues, because the majority of the Country's lands are arid which exposes many investments to peril, it was decided that the investment program be based on the following stategic factors at this stage:

1. Concentrating attention on specific products having special economic importance, either from the aspect of securing food (wheat and barley) or from the aspect of foreign currency (cotton, sugar beets and horticulture),
2. Concentrating attention on quickly producing projects (field products),
3. Co-ordinating the plan for the new land resulting from irrigation projects with the agricultural plan in such a manner that these lands be planted as soon as the projects are completed,
4. Giving special care to studies in arid lands, as regards, fertilizers and preserving humidity, because production of arid land represents at present a high proportion even after the completion of all the irrigation projects.

In the light of these considerations, the following investment plan in agriculture has been prepared:

TABLE (14)

Program of Agricultural Investment
(L.S. Thousand)

	Investment
Germination of wheat and barley seeds	1,415
Germination of cotton seeds	1,101
Agricultural guidance	1,840
Plant protection	3,581
Animal breeding	18,316
Horticulture	2,816
Forests	7,458
Laboratories and research	6,448
Agricultural education and training	6,326
Total	49,301
Silos and centers for classification of seeds	45,699
Total agricultural investments	95,000

TABLE (15)

Production Objectives in Agriculture

	Basic Figure	The Fifth Year	Per cent
Wheat (thousand tons)	875	1,480	170
Barley (thousand tons)	435	526	120
Beets (thousand tons)	91	563	620
Cotton (thousand tons)	270	444	160
Fruit trees (million)	1.25	2.2	176
Tobacco (thousand tons)	7.4	17	230
Forest trees	0.7	5	700
Bulls	-	170	

The above figures are not final but only refer to general tendencies of agricultural production on the assumption of the realization of projects included in the plan, firm cooperation between individuals and the State, and the availability of average climatic circumstances.

Following is an estimated statement of effective means for the realization of increase in production of the main products:

		In Thousand Tons	
New Lands	Wheat	Barley	Cotton
Irrigation projects with vertical expansion	190	-	122
Fertilizers Selected seeds Improvement of agricultural operations	410	90	70
Total	600	90	192

As regards fertilizers, the Syrian Arab Republic consumes about 25 to 35 thousand tons of nitrate and phosphate fertilizers at the rate of 7½ kilograms per planted hectare (or 3 kgs., per faddan compared to 100 kgs., in the United Arab Republic). This low figure for the use of fertilizers is due to the reliance by agriculture in the Syrian Arab Republic on rainfall, particularly with respect to cereals, and to the practice of planting half the land and leaving the other half fallow. Continued cultivation for a long period by this method makes the land lose much of its fertility and consequently reduces its production. Intensive farming, which is the aim of the development plan, requires that the land should not be left uncultivated. Thus, need is urgent for increasing the use of fertilizers in the Syrian Arab Republic. The development plan aims at raising consumption of fertilizers at the fifth year to about 165,000 tons of nitrate fertilizers at a value of about L.S. 40 million and 125,000 tons of phosphate fertilizers at a value of about L.S. 20 million. That is, the plan aims at raising fertilizer consumption to about 300,000 tons at a value of about L.S. 60 million.

These development programs will result in increasing agricultural income by about L.S. 310 million in addition to the basic figure of 965 or at the rate of 32 per cent. It is also estimated that agricultural labor will increase as a result of vertical and horizontal expansion by about 175,000 agricultural laborers in the fifth year, so that permanent work will be secured for a great number of agricultural laborers who do not have continuous employment at present. An additional figure, estimated at 75,000 laborers, will be added to them.

Following is a statement of programs and schemes of agricultural development:

Chapter II

IRRIGATION

The area of lands in the Syrian Arab Republic amounts to almost 185,000 square kilometers, or 18½ million hectares, nearly one third of which is suitable for agriculture. At present they are divided as follows:

500,000 hectares of irrigated land,

4,600,000 hectares of arid land

900,000 hectares of non-planted land (could be planted by irrigation in the future).

In arid land, agriculture depends on rain, which varies from one year to another in its quantity and distribution.

The water resources of the country help in irrigating an additional area of not less than one million hectares. On this basis, the percentage of irrigated lands in the country could be raised from 500,000 hectares (8.3 per cent of the land suitable for cultivation) to 1,500,000 hectares (25 per cent of the land suitable for cultivation).

The first Five-Year Plan in the field of irrigation aims at establishing networks for the irrigation of an area of 254,000 hectares. In this manner, the irrigated land could be increased from 500,000 hectares to 750,000 hectares, or an increase of 50 per cent.

The division of the additional irrigated land on the various projects is as follows:

	Thousand Hectares
The Ghab and 'Asharneh project	70
The Rouj project	5
The Euphrates project (the lower basin)	75
The Khabour project	60
Barada and 'Awaj	12
Upper Orontes	12
Muzayrib	3.2
Al-Sinn	10
Banias	4
Miscellaneous projects	3
Total	254.2

The total area whose networks will be completed during the years of the plan and put to use grow from one year to another according to the following order:

	Total area Irrigated (Thousand Hectares)
Beginning of the agricultural season 1961	8
Beginning of the agricultural season 1962	75
Beginning of the agricultural season 1963	120
Beginning of the agricultural season 1964	195
Beginning of the agricultural season 1965	254.2

As to areas whose production will affect the national income during the plan, they include 195,000 hectares on the assumption that the area whose network will be completed and whose exploitation begins early in 1965, will not increase the income except in the second half of 1966, or during the period covered by the second Five-Year Plan.

The plan takes into consideration in addition to these projects, the beginning of the execution of the Euphrates dam as a start toward its completion during the second Five-Year Plan. This dam will enable the country to control the water of the Euphrates and enlarge the irrigation network.

Credits for the execution of the aforementioned projects amount to L.S. 780 million of which L.S. 140 million is for the reclamation operations. These credits constitute 45 per cent of the credits allotted to the general sector in the first Five-Year Plan, and they secure an increase in the national income estimated at L.S. 145 million in the fifth year which will increase to L.S. 200 million in the sixth year.

The execution of these projects will secure work for about 35,000 laborers. The number of laborers who will have permanent agricultural work at the end of the plan is estimated at 150,000 laborers.

The following tables (16), (17) and (18) indicate the areas which will be supplied by irrigation networks during the years of the first Five-Year Plan, as well as the increase in national income resulting from the execution of irrigation projects during the five years of the plan.

TABLE (16)

Increase of National Income Resulting from Execution of Irrigation Projects during the First Five-Year Plan

(L.S. Million)

	Net Income											
	1960/1961				1961/1962				1962/1963			
Project	1/	2/	3/	4/	1/	2/	3/	4/	1/	2/	3/	4/
Rouj	-	-	-	-	-	-	1.4	1.4	-	-	6	6
Ghab-'Asharneh	-	-	-	-	-	-	8.2	8.2	3.3	10.6	27.6	41.5
Barada	-	-	-	-	-	-	-	-	-	-	-	-
Upper Orontes	-	-	-	-	-	-	-	-	-	-	-	-
Al-Sinn	-	-	-	-	-	-	-	-	6.8	-	-	6.8
Khabour	-	-	-	-	-	-	-	-	-	-	-	-
Yarmouk	-	-	-	-	-	-	-	-	2	-	-	2
Euphrates	-	-	-	-	-	-	-	-	-	-	-	-
Banias	-	-	-	-	-	-	-	-	2.5	-	-	2.5
Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	9.6	9.6	14.6	10.6	33.6	58.80

1/ From formerly arid land transformed by irrigation

2/ From land formerly irrigated by pump now irrigated by gravity

3/ New lands

4/ Total

TABLE (16) (Cont'd)

Increase of National Income Resulting from Execution of Irrigation Projects during the First Five-Year Plan

(L.S. Million)

	Net Income							
	1963/1964				1964/1965			
Project	1/	2/	3/	4/	1/	2/	3/	4/
Rouj	-	-	6	6	-	-	6	6
Ghab-'Asharneh	9	10.6	33.4	53	9	10.6	33.4	53
Barada	-	-	-	-	-	-	5.6	5.6
Upper Orontes	2.8	-	-	2.8	5.6	-	-	5.6
Al-Sinn	6.8	-	-	6.8	6.8	-	-	6.8
Khabour	4.5	-	8.6	13.1	4.5	-	21.5	26
Yarmouk	2	-	-	2	2	-	-	2
Euphrates	-	-	-	-	-	3	34	37
Banias	2.5	-	-	2.5	2.5	-	-	2.5
Miscellaneous	-	-	0.3	0.3	-	-	0.4	0.4
Total	27.6	10.6	48.3	86.5	30.4	13.6	100.9	144.9

1/ From formerly arid land transformed by irrigation.

2/ From land formerly irrigated by pump now irrigated by gravity.

3/ New lands

4/ Total

TABLE (17)

Areas to be Provided with Irrigation Networks during the First Five-Year Plan.

(Thousand of Hectares)

	1960/61				1961/62				1962/63			
Project	1/	2/	3/	4/	1/	2/	3/	4/	1/	2/	3/	4/
Rouj	-	-	1.2	1.2	-	-	5	5	-	-	5	5
Ghab-'Asharneh	-	-	7	7	7	22.5	23.5	53	19	22.5	28.5	70
Barada	-	-	-	-	-	-	-	-	-	-	-	-
Upper Orontes	-	-	-	-	-	-	-	-	6	-	-	6
Al-Sinn	-	-	-	-	10	-	-	10	10	-	-	10
Khabour	-	-	-	-	-	-	-	-	10	-	10	20
Yarmouk	-	-	-	-	3.2	-	-	3.2	3.2	-	-	3.2
Euphrates	-	-	-	-	-	-	-	-	-	-	-	-
Banias	-	-	-	-	4	-	-	4	4	-	-	4
Miscellaneous	-	-	-	-	-	-	-	-	-	-	2	2
Total	-	-	8.2	8.2	24.2	22.5	28.5	75.2	52.2	22.5	45.5	120.2

1/ Formerly arid land, now irrigated by gravity

2/ Formerly pump irrigated land, now irrigated by gravity

3/ Areas not exploited at present.

4/ Total.

TABLE (17) (Cont'd)

Areas to be Provided with Irrigation Network during the First Five-Year Plan
(Thousand of Hectares)

Project	1963/64				1964/65			
	1/	2/	3/	4/	1/	2/	3/	4/
Rouj	-	-	5	5	-	-	5	5
Ghab-'Asharneh	19	22.5	28.5	70	19	22.5	28.5	70
Barada	-	-	4	4	-	-	12	12
Upper Orontes	12	-	4	12	12	-	-	12
Al-Sinn	10	-	-	10	10	-	-	10
Khabour	10	-	25	35	10	-	50	60
Yarmouk	3.2	-	-	3.2	3.2	-	-	3.2
Euphrates	-	10	40	50	-	10	65	75
Banias	4	-	-	4	4	-	-	4
Miscellaneous	-	-	2	2	-	-	3	3
Total	58.2	32.5	104.5	195.2	46.2	32.5	163.5	254.2

1/ Formerly arid land, now irrigated by gravity

2/ Formerly pump irrigated land, now irrigated by gravity.

3/ Areas not exploited at present.

4/ Total.

TABLE (18)

Expenses of Irrigation Projects for each Year of the First Five-Year Plan

(L.S. Million)

Project	1960/61			1961/62		
	1/	2/	3/	1/	2/	3/
Rouj	4.40	0.60	5.0	2.10	0.40	2.50
Ghab-'Asharneh	39	5	44	40	4	44
Barada	0.50	0.75	1.25	0.25	0.50	0.75
Upper Orontes	0.50	-	0.50	5.80	0.70	6.50
Al-Sinn	3	2.5	5.50	7	3.5	10.50
Khabour	1	2	3	23	2	25
Yarmouk	5	2	7	0.50	0.50	1
Euphrates	5	4	9	2	2	4
Banias	0.25	-	0.25	5.75	1.50	7.25
Miscellaneous	-	-	-	-	-	-
Total	58.65	16.85	75.50	86.40	15.10	101.50
Land reclamation			2			38.50
			77.50			140.00

1/ Local currency

2/ Foreign currency

3/ Total

TABLE (18) (Cont'd.)

Expenses of Irrigation Projects for each Year of the First Five-Year Plan

(L.S. Million)

	1962/63			1963/64			1964/65		
Project	1/	2/	3/	1/	2/	3/	1/	2/	3/
Rouj	-	-	-	-	-	-	-	-	-
Ghab-'Asharneh	33	2	35	-	-	-	-	-	-
Barada	6.75	1.25	8	10	3	13	10	2	12
Upper Orontes	4.10	7.40	21.50	13.30	5.20	18.50	-	-	-
Al-Sinn	-	-	-	-	-	-	-	-	-
Khabour	19	3	22	19	1	20	19	1	20
Yarmouk	-	-	-	-	-	-	-	-	-
Euphrates	56	30	86	70	30	100	80	25	105
Banias	-	-	-	-	-	-	-	-	-
Miscellaneous	1	-	1	0.50	-	0.50	0.50	-	0.50
Total	129.85	43.65	173.50	112.80	39.20	152.00	109.50	28	137.50
Land reclamation			25.90			43.10			30.50
Grand Total			199.40			195.10			168.00

1/ Local currency

2/ Foreign currency

3/ Total

Chapter III

WHEAT AND BARLEY

The lands under cultivation at the present are estimated to be about 5.5 million hectares. They are distributed as follows:

	Hectares in Thousand
Wheat	1,450
Barley	800
Cotton	250
Fruits	230
Vegetables	70
Others	700
Left fallow yearly for crop rotation	2,000
Total	5,500

This table shows the importance of wheat and barley in the Syrian Arab Republic. They constitute about 64 per cent of the annual agricultural product.

The cultivation of wheat and barley depends on rainfall, except in certain cases where irrigation water is available. The land owners of irrigated land resort to irrigation water, and sometimes to both irrigation water and rainfall, to save their crops, Because of the dependence on rainfall, the wheat and barley production fluctuates annually. In the year 1957, when rainfall was sufficient, the wheat production reached 1,350 thousand tons and barley 720 thousand tons, while in 1958, production dropped to 438,000 tons of wheat and 137.000 tons of barley. The cause of the drop was the insufficiency of rainfall.

The Syrian Arab Republic can be divided into agricultural zones as follows (areas include the cultivable and non-cultivable lands):

1. Dry area, where average rainfall per year is less than 250 millimeters; area estimated at 12,481,000 hectares.

2. Semi-dry, first area, where average rainfall is between 250-350 millimeters; area estimated at 2,417,000 hectares

3. Semi-dry, second area, where average annual rainfall reached between 350-500 millimeters; area estimated at 1,032,000 hectares.

4. Semi-humid area, where average annual rainfall reached 500-800 millimeters; area estimated at 1,693,000 hectares.

5. Humid area, where the average annual rainfall exceeds 800 millimeters; area estimated at 230,00 hectares.

6. Irrigated land, estimated at 595,000 hectares, of which 95,000 hectares are irrigated every spring.

The dry land is used as pasture, but the large profits which farmers made from the cultivation of wheat and barley in arid lands in the years of plentiful rainfall, encouraged the cultivation of wheat and barley in the dry and semi-dry first area without consideration for the nature of the land and its suitability for wheat and barley. This attempt was a failure and the farmers lost both their pasture and capital.

The cultivation of wheat and barley should therefore be restored to its normal status and be permitted only in the areas economically suitable for such cultivation. The program aims at the prohibition of wheat and barley cultivation in dry and semi-dry first areas as well as in the area where rainfall is nil. These areas are estimated to be about 300,000 hectares and will consequently be restored as pasture land. This would greatly promote animal production as can be seen in the sections dealing with animal resources.

The program also aims at transforming barley cultivation in the semi-dry second area and semi-humid land into wheat cultivation. The same applies to humid and irrigated land, except in certain cases where barley cultivation is necessary to check suna insects and important for the purpose of seed germination.

This program will help the reduction of wheat-planted land to 428,000 hectares; but this reduction will not reduce the wheat production inasmuch as the land where wheat cultivation will be prohibited normally gives little yield.

The increase of wheat production is possible through the cultivation of selected seeds, fertilization and through the combat of diseases with the help of agricultural guidance. These operations are expected to raise the annual production to about 1,300,000 metric tons.

When large irrigation projects create, at the end of the first Five-Year Plan, 187.2 thousand hectares of land, the allocation of 33 per cent of this land for wheat cultivation will add to the land assigned for wheat cultivation 62,400 hectares of new and irrigated land. In this event, the total area will become 1,110,000 hectares, and production will reach 1,480,000 tons.

As for barley, its cultivation in the dry land will be prohibited and confined to semi-dry first land. The land in the semi-dry first area, normally planted with wheat, will be added to this area. The total area for barley cultivation will reach 800,000 hectares and production, before the application of the vertical development plans, will reach 400,000 tons.

The inclination was to prohibit the cultivation of barley in areas where rainfall and water were abundant and instead to use those areas for wheat cultivation. It was, however, found necessary to plant barley in about 20,000 hectares of the second semi-dry land and in 10,000 hectares of semi-humid land where the suna insect attacked wheat. Also 10,000 hectares in other irrigated land in order to increase barley seeds. The total area to be planted with barley will reach 840,000 hectares, instead of 712,000 hectares. Production, after implementation of the vertical development plans, is estimated to reach 526,000 tons.

Tables (19) and (20) show the present and the future situation of wheat and barley as to areas cultivated and production:

TABLE (19)

Areas Cultivated with Wheat and Barley at Present and Future Prospects in the Development Plan (Thousands of Hectares)

AGRICULTURAL LANDS	Present Wheat	Present Barley	Proposed Wheat	Proposed Barley
Dry land (250 mm. and less)	100	200	-	-
First semi-dry land (250-350 mm.)	500	300	-	800
Second semi-dry land (350-500 mm.)	320	120	420	20
Semi-humid land (500-800 mm.)	450	52	492	10
Humid land (800 mm. and over)	10	10	20	-
Presently irrigated land (permanent and semi-permanent irrigation)	95	30	115	10
Land added from irrigation projects	-	-	63	-
Total	1,475	712	1,100	840

TABLE (20)

Present Wheat and Barley Production and Targets According to Development Plan (Thousands of Tons)

Agricultural Land	Wheat			Barley		
	Present	Before vertical development	After vertical development	Present	Before vertical development	After vertical development
Dry land (less than 250 mm. rain)	10	-	-	20	-	-
First semi-dry land	150	-	-	150	400	480
Second semi-dry land	160	210	336	84	14	16
Semi-humid land	405	492	738	52	10	12
Humid land	7	14	24	8	-	-
Irrigated land (semi-irrigated)	32	37	75	42	14	18
Irrigated land (permanent-irrigated)	45	60	120			
Additional irrigated land	-	-	187	-	-	-
Total	809	813	1,480	435	438	526

Germination of Wheat and Barley Seeds

The purpose of the germination program is to plant the area assigned for wheat and barley with selected seeds in the year 1963/1964. It is to be noted that 111,000 tons of wheat and 84,000 tons of barley are needed for seeding. The program aims at distributing one third of the required seeds from the selected seeds every year, beginning in 1961/62. In this way, one third of the total cultivated area would be renewed every year.

Seed germination will be conducted in two stages; the first through the production of selected seeds in the agricultural centers, and the second through distribution of these selected seeds to farmers who will produce more such selected seeds on contract. Those farmers will work on selected areas and on agrarian reform lands.

It is only natural to select seeds suitable for each area. Selected seeds of wheat and barley will be prepared in the centers of the Ministry of Agriculture beginning in 1960/1961, within the limit of 1,850 tons of wheat and 1,390 tons of barley. These quantities planted in germination fields, will produce 37,000 tons of selected wheat seeds and 28,000 tons of barley seeds for distribution to farmers beginning in 1961/1962.

This operation requires the purchase of selected seeds, either locally or from abroad, according to the kind. The required quantity is estimated to cost L.S. 50,000. Fertilizers are also required for the fertilization of these seeds, at a cost of about L.S. 102,000 per annum.

The selected seeds produced from these fields also require funds for their purchase, as well as for their sifting, sterilization, storage and transportation, in addition to funds to cover the expenses of a technical organization needed to supervise these operations. All these expenses would be restored when the seeds are sold. The sale price, however, should not be higher than the price of purchase from farmers in order to increase the usage of such kinds of seeds. In other words, the Treasury would bear expenses equal to one half of the cost of technical supervision, sifting, sterilization, storage and transportation. These expenses are estimated to reach an average of L.S. 18 per ton.

It is possible for an independent institution (such as the Cereals Office or the Agricultural Bank) enjoying sound financial and material capabilities, to finance such operations. In this event, the development budget of the Ministry of Agriculture will include only the annual subsidy, which can be estimated at L.S. 1,174,000.

As for the expenses of the Institution, they can be covered from the appropriations in the budget made for sifting, sterilization, storage and transportation, which can be estimated at L.S.32.5 per ton.

The organization to supervise these operations should be composed of two agricultural engineers and seven technical controllers.

Inasmuch as the lands are presently planted with poor quality seeds, the possibility of increasing production by better seeds is great. According to information collected from farmers using good seeds, the crop doubles, but it is better to reckon the increase by 30 per cent because of many factors, such as the extent of the land under cultivation, distances between areas, and differences in care and services of the land.

The investment for germination of wheat and barley seeds is estimated at L.S. 91,000 and the current development expenses estimated at L.S. 1,324,000.

Table (21) shows the areas planted with each kind of wheat and barley, and the quantity of seeds needed for the cultivation of one third of these lands. The other table (22) shows areas of germination plants and the amount of selected wheat and barley seeds obtained therefrom:

TABLE (21)

Areas Cultivated with Wheat and Barley of Different Kinds and the Quantities of Selected Seeds Needed Every Year

(Areas in 1,000 Hectares; Seeds in 1,000 Tons)

Wheat			Barley		
Kind	Area	Selected Seeds (*)	Kind	Area	Selected Seeds
Sinatur	570	19	Arabi	820	27.3
Hawrani	320	10.5	Baryur	9	0.3
Hamari	120	4	Falful	9	0.3
Florence Aurore	100	3.5	Rumi	2	0.07
Total	1,110	37.0		840	27.97

(*) This quantity represents the requirement for cultivation of one third of land.

TABLE (22)

Areas of Wheat and Barley Germination Fields and Quantities Obtained Therefrom

(Areas in 1,000 Hectares; Seeds in 1,000 Tons)

	Wheat		Barley	
Year	Area	Selected Seeds	Area	Selected Seeds
1959/1960	6.38	9.57	1.73	6.59
1960/1961	18.50	37.00	14.00	28,00
1961/1962	18.50	37.00	14.00	28.00
1962/1963	18.50	37.00	14.00	28.00
1963/1964	18.50	37.00	14.00	28.00
1964/1965	18.50	37.00	14.00	28.00

TABLE (23)

Increase of Wheat and Barley Production Resulting from Execution of Seed Germination Project in the Agricultural Development Plan

(Areas in 1,000 Hectares; Quantities in 1,000 Tons)

	Wheat		Barley	
Year	Area Benefiting	Increase Expected	Area Benefiting	Increase Expected
1960/1961	95.7	15.79	25.9	3.89
1961/1962	350	57.75	280	42
1962/1963	713.3	117.70	560	84
1963/1964	1,090	179.85	840	126
1964/1965	1,110	183.15	840	126

Fertilization of Wheat and Barley

The dependence of agriculture, particularly cereals, in Syria on rainfall and the practice of cultivating half the land and leaving half the land fallow have made the majority of farmers refrain from the use of chemicals in the fertilization of their farms. They contented themselves with rainfall and whatever nutrition it carried to the earth.

But the use of the earth for many years undermines its fertility and thus decreases its production. Inasmuch as the plan to increase the income stipulates that no land be left without cultivation, it is therefore necessary to fertilize the land by means of chemical fertilizers, in addition to manures. Fertilization of land in semi-dry areas requires tests and studies, and for fear that the fertilization of these areas may give contrary effects, attention will be focused on humid and semi-humid land where rainfall is abundant. Tests, however, could be carried out in the semi-dry lands.

As the farmers are not accustomed to the use of fertilizers although some use it in limited quantities, it is necessary that fertilization be increased gradually until the farmers get accustomed to it. During the first Five-Year Plan, the use of fertilizers will not, therefore, be complete.

It is estimated that the rates of usage of fertilizers during the first five-year plan will be as follows: 150 kilograms of nitrate fertilizers (16 per cent nitrates) and 100 kilograms of phosphate (21per cent phosphoric acid) per hectare of arid agricultural land; and 200 kilograms of nitrate fertilizers, and 150 kilograms of phosphate per hectare of irrigated land.

It is important that all the irrigated areas planted with wheat and barley be fertilized. In the arid land, however, the increase by the end of the plan will be 75 per cent of total land. It is estimated that the arid fertilized areas will increase according to the following ratios during the years of the plan; 15 per cent,25 per cent,40 per cent, 60 per cent and 75 per cent.

In the irrigated land, the increase will be as follows: 25 per cent, 35 per cent,50 per cent,75 per cent and 100 per cent.

Tables (24), (25) and (26) show the wheat and barley planted areas in which fertilizers are used and the quantities of chemicals used, as well as the increases in production of wheat and barley as a result of the fertilization program:

TABLE (24)

Wheat Planted Fertilized Areas and Fertilizers Required in Five-Year Agricultural Development Plan

(Areas in 1,000 Hectares; Fertilizers 1,000 Tons)

	Irrigated			Arid		
Year	Area	Nitrate	Phosphate	Area	Nitrate	Phosphate
1960/1961	28.75	5.75	4.31	76.80	11.5	7.70
1961/1962	41.30	8.26	6.20	128.00	19.20	12.80
1962/1963	69	13.80	10.35	204.80	30.70	20.50
1963/1964	118.50	23.70	17.78	207.20	46.10	30.70
1964/1965	178.00	35.60	26.70	284.00	57.60	38.40

TABLE (26)

Barley Planted Fertilized Areas and Fertilizers Required in Five-Year Agricultural Development Plan

(Areas in 1,000 Hectares; Fertilizers in 1,000 Tons)

Year	Irrigated			Arid		
	Area	Nitrate	Phosphate	Area	Nitrate	Phosphate
1960/1961	2.50	0.50	0.38	4.50	0.68	0.45
1961/1962	3.50	0.70	0.53	7.50	1.13	0.75
1962/1963	5.00	1.00	0.75	12.00	1.80	1.20
1963/1964	7.00	1.50	1.13	18.00	2.70	1.80
1964/1965	10.00	2.00	1.50	22.50	3.38	2.25

TABLE (26)

Increase of Barley and Wheat Production as a Result of Fertilization in the Five-Year Plan

(Areas in 1,000 Hectares; Production in 1,000 Tons)

	Wheat		Barley	
Year	Area Fertilized	Increase Contemplated	Area Fertilized	Increase Contemplated
1960/1961	105.6	21.1	7.0	1.4
1961/1962	169.3	33.8	11.0	2.0
1962/1963	273.8	56.8	17.0	2.9
1963/1964	425.7	61.8	25.5	4.4
1964/1965	562.0	126.8	32.5	5.7

Chapter IV

COTTON

The area of cotton cultivation is estimated at 227,000 hectares including 57,000 hectares arid planted. Despite the proportional smallness of this area, the cotton crop is considered the main crop in the Syrian Arab Republic and the pillar of its economy.

Indeed, it was cotton which sustained the economy of the country during the drought in the last three years which led to low production of grains.

Cotton comes in the lead of exports as regards value, in addition to the fact that the industry of ginning and pressing and the industry of spinning and weaving depend on cotton.

The present area of arid cotton is estimated at 57,000 hectares and forms about 25 per cent of the total area planted with cotton. Its production is estimated at 18,700 tons of ginned cotton (flower) or a proportion of only 7 per cent of the total cotton production.

The arid cotton cultivation is however characterized with low yield and lower qualities of staple compared to the staple of irrigated cotton. Accordingly, its prices are also lower than the prices of irrigated cotton. The fact that some persons mixed it with irrigated cotton upon sale for personal benefit regardless of laws prohibiting such a practice has prejudiced the reputation of Syrian cotton in foreign markets.

This is why the program aims at preventing the cultivation of arid cotton, beginning gradually by reducing its area in the semi-dry districts, to about 20,000 hectares.

In view of the shortage in the reserve of subterranean waters, the area of irrigated cotton relying on these waters will also be reduced, and this reduction is estimated at 10,000 hectares.

Accordingly, the cotton area will be reduced by about 30,000 hectares, and its total area will reach only about 197,000 hectares. The irrigated area, added at the end of the five years as a result of the execution of irrigation projects which amount to 187,200 hectares will increase, however, an area of 62,400 hectares permanently irrigated to cotton areas thus putting up its total area to about 260,000 hectares.

The deficit of the decrease of cotton area as the result of reducing the area of arid plantation and the shortage of the reserve of subterranean waters will influence the production, which will be reduced from 266,000 tons of ginned cotton to 250,000 tons.

After the execution of irrigation projects, the increase of the cotton area will result in increasing production from 250,000 tons, to 346,800 tons.

The overall result of this operation will lead to an increase in the cotton production by 77,600 tons.

The execution of vertical development projects such as seed germination, increasing the use of fertilizers, combatting insects and agricultural guidance projects will all lead to an increase in cotton production of about 444,000 tons. The following tables (27) and (28) indicate the estimated area of cotton cultivation and its production compared with present area and production.

TABLE (27)

Areas Planted with Cotton at Present and Areas to be Planted According to the Development Plan

Agricultural Area	In Tousands of Hectares Present Area	In Tousands of Hectares Estimated Area
Arid, in the semi-dry area (250-500 mm.)	45	25
Arid, in the semi-humid area (500-800 mm.)	2	2
Arid, in the humid area (800 mm., and above)	10	10
Irrigation from subterranean water	15	5
Permanent irrigation	155	155
Permanent irrigation added after the execution of irrigation projects	-	62.4
Total	227	260

TABLE (28)

Present Production of Ginned Cotton and its Estimated Production According to the Development Plan

Agricultural Area	In Thousands of Tons Present Production	 Before Vertical Development	 After Vertical Development
Arid, in the semi-dry area (250-500 mm.)	13.5	7.5	7.5
Arid, in the semi-humid area (500-800 mm.)	0.7	0.7	0.7
Arid, in the humid area (800 mm., and above)	5	5	5
Irrigation, from subterranean waters	15	5	6.5
Permanent irrigation	232	232	320.3
Permanent irrigation after execution of irrigation projects	-	93.6	121.7
Total	266.2	343.8	443.7

Cotton Seed Germination

More than five years ago began the execution of a program aiming at improving the cotton seed and promotion of their use by farmers. The seeds necessary for cotton cultivation in an area which is expected at the end of the Five-Year Plan to reach 260,000 hectares is estimated at 16,300 tons. This quantity will be produced from 1,600 tons of testified (mushahad) seed which would be obtained from the cultivation of 153 tons of registered seeds.

In other words, it is necessary to import 153 tons of registered seeds yearly so as to plant from the series of their germination an area of 260,000 hectares. Nevertheless, in view of the fact that this area shall not be available except at the end of the Five-Year Plan, this increase will be gradual, and therefore the amount of imported seeds will have to increase gradually until it reaches 153 tons at the end of this period.

Most of the cotton area is planted with the type Coker 100 Wilt with the exception of a small area planted with Palmyra long staple locally generated for the production of the country's requirement of long staple cottons estimated at 15,000 tons of unginned cotton.

Germination of seeds requires a technical body composed of seven engineers and 110 technical supervisors equipped with 4 jeeps. Actually, there are at present only 10 supervisors and 140 unskilled supervisors. It is necessary to change this situation by replacing the temporary unskilled supervisors with a permanent technical body. For the execution of this program it is necessary to establish and enlarge the present stations in Aleppo, Homs, Hama, Rakka, Deir-Ez-Zor and Hasakeh. Cost of these operations are estimated at L.S.40,000 to be equally divided over the years 1961/1962 - 1964/1965.

The program requires that the State continue to assume the responsibility of reducing the price of seeds. Present investments for seed germination are estimated at L.S.100,000 and the current development expenses are estimated at L.S. 1,001,000. The following tables, Tables(29) and (30) indicate the increase of the area under cotton cultivation and the amount of seed required.

TABLE (29)

The Increase of the Area Under Cotton Cultivation during the Five-Year Development Plan

(In Thousands of Hectares)

	Irrigated	Arid	Total
1960/1961	160	37	197
1961/1962	163	37	200
1962/1963	184	37	221
1963/1964	205	37	242
1964/1965	223	37	260

TABLE (30)

Amount of Seed Necessary for Cotton Cultivation during the Five-Year Development Plan

(Area in 1,000 Hectares, Weight in Tons)

	Registered Seed Imported		Testified Seed Produced after one Year		Agricultural Seed Produced after two Years	
Year	Quantity	Area of Plantation	Quantity	Area of Plantation	Quantity	Area of Plantation
1960/1961	120	2.0	1,250	20	12,500	200
1961/1962	120	2.0	1,250	20	12,500	200
1962/1963	130	2.2	1,380	22	13,750	220
1963/1964	141	2.4	1,500	24	15,000	240
1964/1965	153	2.6	1,630	26	16,250	260

Cotton Fertilization

Present rate of fertilization is estimated at about only 140 kgs. of nitrate fertilizers and 100 of phosphate per hectare. These rates are much less than actual requirements, namely 600 kgs. of the first type and 500 kgs. of the second type. During the period of the program, the rate of fertilization is not expected to increase more than half of these quantities.

Recent statistical studies indicate that only 47 per cent of all cotton farmers use chemical fertilizers. It is estimated that this proportion will reach 80 per cent of the irrigated areas at the end of the five years, an increase of 6 per cent annually.

To convince about 80 per cent of the farmers to fertilize their fields at the rate of 300 kgs. of nitrate fertilizer and 250 of phosphate fertilizer, it is necessary to enact legislation distributing the cost of fertilizers among all partners in agricultural investment (the landlord, the investor, and the agent) each according to his percentage in the yield. It is also necessary to fix the profit of companies which import fertilizers, as well as facilitate fertilizer loans and expand agricultural guidance.

The following tables (31) and (32) indicate the fertilized areas of cotton and the amount of fertilizers necessary during the years of the program, as well as the increase in the production of cotton resulting from the execution of the fertilization program.

TABLE (31)

Fertilized Areas, and Amount of Fertilizer Needed during the Five-Year Development Plan

(Areas in 1,000 Hectares; Fertilizers in 1,000 Tons)

Year	Area	Nitrate Fertilizers	Phosphate Fertilizers
1960/1961	89.6	26.9	22.4
1961/1962	101.1	30.3	25.3
1962/1963	125.1	37.5	31.3
1963/1964	151.7	45.5	37.9
1964/1965	178.4	53.5	44.6

TABLE (32)

Increase in Cotton Production Resulting from the Execution of the Fertilization Program

(Areas in 1,000 Hectares; Increase of Production in 1,000 Tons)

Year	Fertilized Area	Anticipated Increase in Production
1960/1961	89.6	26.6
1961/1962	101.1	30.0
1962/1963	125.1	36.7
1963/1964	151.7	44.1
1964/1965	178.4	52.0

Program of Agricultural Guidance for Cotton

It is possible to increase cotton production by increasing the use of chemical fertilizers on irrigated land, as well as by improving agricultural practices, the care of cotton and the combatting of its pests. All this is impossible without agricultural guidance. This program will include guidance fields, the preparation and presentation to farmers of educational films, the distribution to farmers of simply written technical booklets, the offering of prizes to farmers with high production and the establishment of agricultural fairs and festivals.

The present number of guidance fields is 45 but should be increased gradually until it reaches, at the end of the Five-Year Plan, 150 fields of one hectare each. The plan aims at supplying these fields with seeds and fertilizers free of charge. Investment necessary for this purpose is estimated at L.S. 15,000 and the current development expenses at L.S. 41,000. Anticipated increase in cotton production is estimated at about 33,000 tons of unginned cotton.

Improving the Quality of the Cotton Crop

The development plan is not limited to increasing the cotton crop and the irrigated areas planted with cotton. The plan also aims at improving the quality of the product in order to bring it up to a decent level so that it may take its place on the world market. This can be accomplished by keeping the kinds of cultivated cotton pure, preventing their deterioration, forbidding the blending of different kinds, controlling the ginning processes, checking the exported quantity to make sure that it is compatible with the ordered kinds, testing the humidity of the cotton before export and arranging for arbitration between exporter and importer when differences arise concerning the quality of the product.

All these arrangements would improve the price of the product, improve its reputation and gain for it a larger share in the foreign market. The Aleppo laboratories which have branches for testing the staple, seeds, and humidity were set up in order to fulfill all these requirements.

Cotton Marketing

Production processes should go hand in hand with marketing processes whether internal or external. It is imperative as well to open new markets to absorb the estimated increase of 40,000 tons of ginned cotton in addition to the present export figure of 80,000 tons. Internal marketing requires the setting up of groups to handle its trading and marketing. This would make it easy for demand to meet supply and for price to be determined according to this relationship. Also it is necessary to set up groups to facilitate cotton collateral loans on cotton stored with these groups and to list completed transactions and their prices for the benefit of the producers. These groups might give weight certificates and certificates as to the kind of cotton as well.

The recommended number of groups is four, one in each of the following counties : Aleppo, Deir-Ez-Zor, Rakka and Hama. The Aleppo group is already under formation and it is hoped that the other three will be formed during 1960/1961. The cost of these groups is to be financed by the private sector whose money is to be refunded out of a tax levied on cotton dealt with by these groups.

As for cotton marketing abroad and opening new markets, it is recommended that this should be handled by the permanent Cotton Information Committee. This Committee is to be equipped with translated booklets about cotton and films showing the stages of production, spinning, weaving, staple characteristics, checking processes, testing, etc...

The cost of this program is estimated at 115,000 Syrian Pounds to be distributed over the five years of the development plan.

Chapter V

SUGAR BEETS

Sugar beet production does not meet the requirements of the population for sugar. The area cultivated with sugar beet is estimated at 5,000 hectares and production at 91,500 tons, at the rate of 19 tons per hectare. The sugar production is estimated at about 12,400 tons. The Syrian Arab Republic, therefore, imports raw sugar for refining at the Homs and Damascus sugar refineries to cover local consumption, estimated at 55,000 tons.

The increase of areas under sugar beet cultivation is possible through facilitating transportation means, particularly in the Ghab and Hama districts; through facilitating delivery operations at the sugar refining plants; through reducing taxes levied from sugar produced locally from sugar beet; and increasing taxes at the same rate as imposed on imported raw sugar. The relation between the farmers and the sugar refineries should also be organized through an ad-hoc commission that limits natural and chemical deductions and sets the sugar beet prices according to sugar percentage.

It is also possible to increase the production per hectare by improving the methods of ploughing, cultivation and fertilization of the earth; by selecting the seeds that would yield a higher percentage of sugar; and by combatting plant diseases. A special organization should be set up to extend guidance and services, composed of three units; the first for Hama Mohafaza (district), the second for Homs Mohafaza and the third for Damascus Mohafaza. Each unit should be composed of an agricultural engineer, two technical controllers and two skilled workers and should be provided with a jeep, two motorcycles and two bicycles. Four experimental fields must be established for each Mohafaza, a film on sugar beet plantation must be prepared and pamphlets be printed for distribution to farmers.

In this manner, the yield per hectare may be doubled to reach 45 tons and the areas planted with sugar beet may be increased.

The capacity of the two plants in Homs and Damascus is 1,500 tons per day. Sugar beet can be planted during two seasons, autumn and spring, and production appears in the months of May and October. The maximum number of days which these plants can be furnished with sugar beet is 180 days. The total capacity of the plants is a maximum of 270,000 tons per year.

The high cost of refining sugar from sugar beet, and the simplicity of refining sugar from raw sugar encourages the plants to refine sugar from raw sugar. If, however, it becomes possible to increase the yield per hectare to 40-45 tons by means of guidance organization, and fertilization, the delivery cost of sugar beet drops from L.S. 60 to

L.S. 50 per ton. In this manner the cost of production drops at the rate of L.S. 80 per ton, on the consumption that each ton of sugar is extracted from 8 tons of sugar beet.

The consumption of sugar in the Syrian Arab Republic is expected to increase by 1964/1965 to 70,000 tons as a result of an increase in population, the population movement to the cities, and as a result of an increase in per capita income and a decrease in the sugar price.

The production of 270,000 tons of sugar beet to meet the total requirements of the refining plants can be realized as follows:

TABLE (33)

Production Targets for Sugar Beets in Five Years of the Plan

Year	Area 1,000 Hectares	Yield ton	Production 1,000 tons
1959/1960	6	20	120
1960/1961	10.8	25	270
1961/1962	9	30	270
1962/1963	7.7	35	270
1963/1964	6.8	40	270
1964/1965	6	45	270

In order to produce 270,000 tons of sugar beet, the total capacity of the refining plants, it is estimated that 10,800 hectares must be planted at the rate of about 25 tons of sugar beet per hectare, in the year 1960/1961. But in the year 1964/1965, when per hectare yield will increase to 45, it is necessary to plant only 6,000 hectares. If, however, 10,800 hectares of land are planted that year, the total production would reach 486,000 tons of sugar beet, or 60,800 tons of sugar.

In this event, the present refining plants would have to be expanded or another plant erected with a capacity of 216,000 tons. This would be the better alternative, and it would be preferable to erect such a plant in Jisr El-Shugur in order to serve the northern Ghab Region, Rouj plain, as well as part of the Latakia district; or erect it in the Euphrates valley to service all of the eastern districts of the country.

It is also preferable that the capacity of the plant be 290,000 tons in order to meet domestic consumption when it reaches 70,000 tons of sugar. In this event, the total area to be planted with sugar beet would be 12,500 hectares, at an average per hectare yield of 45 tons.

Table (34) shows the program for the cultivation and production of these quantities of sugar beet.

TABLE (34)

Sugar Beet Development Plan for the Years 1960/1961 - 1964/1965

Year	Area 1,000 Hectares	Yield per Hectare Ton	Production Sugar Beet 1,000 Tons	Production Sugar 1,000 Tons
1960/1961	10.8	25	270	33.8
1961/1962	10.8	30	324	40.5
1962/1963	10.8	35	378	47.3
1963/1964	12.0	40	480	60.0
1964/1965	12.5	45	563	70.4

The investment necessary for the guidance program of sugar beet cultivation is estimated at L.S. 60,000 and current development costs at L.S. 65,000.

Chapter VI

HORTICULTURE

The horticulture program includes horizontal and vertical expansion in fruit trees, vegetables, bees, silk and agricultural industries.

Fruit Trees

horizontal expansion

The area planted with fruit trees is estimated to measure 280,000 hectares, containing 80 million trees of various kinds.

The fruit trees are divided into irrigated and arid. The irrigated trees include certain almonds, apricot, peach, apple, plum, cherry, pear, quince and citrus trees, such as orange and lemon. The arid trees include olive, Aleppo pistachio nut, fig, vineyards etc..

There is a great need for expansion in the cultivation of trees in arid land as this is the only way to increase the income. It is possible to expand in the cultivation of olive trees at the rate of 4 million trees; also in the cultivation of pistachios, but both within the limits of 1.25 million olive trees and 1.25 million Aleppo pistachio nut trees within the Five-Year Development Plan, as it would not be possible to plant all at once.

Vineyards in the Syrian Arab Republic suffer from Philoxra insects which spread from one district to the other. It is imperative to graft plants in the American way in order to combat these insects. About 20 million trees are liable to be inflicted with this disease, and the Ministry of Agriculture is preparing 5 million plant trees to replace the inflicted ones. Arrangements will be made to replace all the trees within the Five-Year Plan.

The trees in the irrigated areas can be increased in number in the Orontes, Euphrates and Khabour valleys, at the foot of Mount Hermon, and at the feet of the Latakia, Aleppo and 'Ifrin mountains. The Ministry of Agriculture will prepare 6 million plant trees during the years of the plan.

The total number of plant trees of all kinds of fruits will reach 11 million.

The investments needed for this purpose are estimated at L.S. 726,000 and the current development expenses at L.S. 422,000.

Vertical expansion

Vertical expansion can be realized through fertilization, grafting and improvement of picking operations with a view to improving the products. All the guidance expenses fall within the responsibility of the State, while the farmers pay for the value of fertilizers.

Increase in the production can be estimated at 20 per cent of the present yield, half of which resulting from fertilization and the other half from other operations.

fertilization

Because of the lack of a competent organization for guidance in the first year of the program and the tardy response of the farmers to guidance and advice on the application of modern ways, the area which will benefit from fertilization is estimated at 10 per cent of the total area in the first year with consequent annual increases of 20, 30, 40 and 60 per cent.

The following tables (35), (36), (37) and (38) show the quantities of fertilizers, nitrate, phosphate, and potassium, needed for the fruit trees and the increase contemplated in the production following the execution of the vertical expansion plan:

TABLE (35)

Nitrate Fertilizers Needed for Fruit Trees during the Development Plan

(Weight - Ton)

	1st. Year	2nd. Year	3rd. Year	4th. Year	5th. Year	Total
Olive	871	1,742	2,613	3,484	5,226	12,936
Aleppo pistachio nut	20	40	60	80	120	320
Almond	285	570	855	1,140	1,710	4,560
Apple	160	320	480	640	960	2,560
Citrus	6	12	18	24	36	96

TABLE (36)

Phosphate Fertilizers Needed for Fruit Trees During the Development Plan

(Weight - Ton)

	1st. Year	2nd. Year	3rd. Year	4th. Year	5th. Year	Total
Olive	435	870	1,305	1,740	2,610	6,960
Aleppo pistachio nut	13	26	39	52	78	208
Almond	114	228	342	456	684	1,824
Apple	64	128	192	256	384	1,024
Citrus	3	6	9	12	18	48

TABLE (37)

Potassium Fertilizers Needed for Fruit Trees during the Development Plan

(Weight - Ton)

Kind	1st. Year	2nd. Year	3rd. Year	4th. Year	5th. Year	Total
Olive	217	434	651	868	1,304	3,474
Aleppo pistachio nut	6	12	18	24	36	96
Almond	57	114	171	228	324	912
Apple	32	64	96	128	192	512
Citrus	3	6	9	12	18	48

TABLE (38)

Production Increases Contemplated Following Execution of Vertical Expansion Program

(Weight - Ton)

Kind	Present Production		Increase in the Fifth Year as a Result of Fertilizattion	
	Mature	Immature	Mature	Immature
Aleppo pistachio nut	1,250		125	
Peach	1,618		162	
Cherry	1,622		162	
Apricot	25,733		2,573	
Apple	7,515		751	
Citrus	1,772		177	
Olive	35,000	7,000	3,500	700

Vegetables

The area planted with vegetables exceeds 80,000 hectares, and production is estimated at 544,000 tons.

The problems of vegetable cultivation in the Syrian Arab Republic are confined to selecting the kinds suitable for various lands, the furnishing of guaranteed seeds of such varieties, and cultivating a sufficient area to ensure meeting the demands of the market for local consumption. Marketing of the vegetables is also a problem. It was, therefore, found necessary to establish four experimental stations to study the varieties and cultivation periods. The investments necessary are estimated at L.S. 500,000 and current development expenses at L.S. 65,000.

Bees

There are very suitable areas where bees can be raised. The inhabitants of these areas already raise bees in primitive ways and by using local varieties. It has been found necessary, therefore, to spread the use of modern wooden beehives by providing the raisers with beehives on an installment basis.

It is also necessary to select fine breeds and introduce foreign varieties. Therefore, establishment of four centers is necessary to give guidance on bee raising and study the varieties.

Investments are estimated at L.S 283,000 and current development expenses at L.S. 254,000.

Silk

The raising of the silk worm in the Syrian Arab Republic is an old occupation, particularly in the Latakia mountains. This occupation has suffered certain setbacks, a fact which has made the farmers cut a great number of mulberry trees. There are presently 7,000 boxes raising about 350,000 kilos of cocoons.

The introduction of improved specimens of worms and the improvement of raising methods are necessary to expand silk-worm raising and to give better results. The present ways of dissolving the cocoons give threads with defects which do not satisfy the textile industrialists. It is important, therefore, to create a small unit for the production of good threads that would encourage the industrialists or cooperatives to create similar units after realizing their profitability.

It was found necessary to establish a research center that will study the specimens and give guidance as to best methods of raising.

Improved silk worm eggs will be imported to be sold at reduced prices to farmers.

The investments necessary are estimated at L.S. 160,000 and the current development expenses at L.S. 75,000.

Agricultural Industries

There are certain rural agricultural industries that must be improved, such as the drying of grapes, figs and apricot paste, and the extraction of olive oil. The Ministry of Agriculture has initiated such a program by establishing two specimen press houses for olive oil, three guidance centers to give advice on grape drying, and three on figs. The sun drying system is used by these units.

For this program, an appropriation of L.S. 1,150,000 has been made in the 1959/1960 Budget. It is important that the laboratories of the Ministry be furnished with a testing press and drying equipment as well as refining equipment. Equipment necessary is estimated to costL.S. 305,000 and the current development is estimated at L.S. 26,000.

Chapter VII

FORESTRY WEALTH

Forestry occupies 450,000 hectares of land in the Syrian Arab Republic, constituting 2.3 per cent of the total area of the Country. It is divided as follows:

112,000 hectares completely covered and considered valuable forestry areas in the districts of Latakia and Misyaf.

225,000 hectares covered sparsely which can be used for charcoal but need a long time to become valuable.

113,000 hectares considered as very dispersed forestry areas and used for pasturage only. They are situated in the Bal'as, and Jabal 'Abd al-'Aziz areas.

Forests are presently considered unproductive for these reasons:

1. Exposure to the attacks of trespassers of the forestry districts;
2. Transformation of the forestry districts into agricultural areas though the yield of such land is scant;
3. Lack of survey of forestry districts;
4. Lack of roads that would enable access for care and for fire extinguishing operations at the required speed;
5. Damage to forests from goats.

To counteract these problems, it has become necessary to draw up plans in a manner that would improve and expand forests and eventually enable the country to benefit in an economical manner from their wealth. A description of some of these plans follows.

Survey of the Forestry Districts

The effective protection of forests is the most important factor in their improvement and exploitation. Such protection can only be guaranteed through a complete survey of the forest districts, and their separation from the agricultural areas in order to end the problems existing between the farmers and the State and to prevent trespassings by neighboring farmers.

The program provides for the initiating of survey operations in the Latakia Mohafaza and the Misyaf Mohafaza. The necessary drawings have been completed with respect to the districts of Al-Bayer and Al-Basit. The forestry districts that should be surveyed approximately cover the following areas:

1 - Al-Basit	20,000	Hectares
2 - Al-Bayer	34,000	"
3 - Al-Haffah	50,000	"
4 - Misyaf	50,000	"
Total	154,000	Hectares

This program needs an investment of L.S. 680,000 and L.S. 324,000 for development expenses. The Ministry of Agriculture is planning to complete the survey of the Latakia and Misyaf areas through international bids.

Forestry Roads and Fire Prevention Lanes

The program aims at the construction of forestry roads, totaling 350 kms. in length to facilitate exploitation and the establishment of lanes for fire prevention, at lengths of 25 kms. and widths of 25 to 40 meters.

The cost of each kilometer of road is between L.S. 4,000 to L.S. 6,000 and the cost of each kilometer of insulating road between L.S. 2,000 and L.S. 4,000.

The execution of this project requires L.S. 926,000 and current development expenses will be L.S. 281,000.

Protection of Foresty Areas

The protection of forestry areas requires the employment of a sufficient number of guards, the establishment of a network of telephone lines for the forestry outposts, a wireless network system as well as transportation means and fire-extinguishing vehicles.

This program requires an investment of L.S. 1,025,000 and development expenses of about L.S. 226,000.

Production of Wood

forestry plants

Forestation requires the establishment of permanent and temporary nurseries in the Mohafazat at the rate of 1-3 in each Mohafaza, according to the needs of each for plants. These nurseries should produce annually at least five million plants, of which four million will be used for forestation, and one million for distribution to institutions, ministries and farmers.

The following forestry nurseries were established last year:

1 - Nursery in	Madaya	Mohafaza of	Damascus
2 - " "	Tel Shihab	" "	Der'a
3 - " "	'Arida	" "	Homs
4 - " "	Buqa	" "	Latakia
5 - " "	Al Sinn	" "	Latakia
6 - " "	Aleppo	" "	Aleppo
7 - " "	Deir-Ez-Zor	" "	Deir-Ez-Zor
8 - " "	Hasakeh	" "	Hasakeh
9 - " "	Hama	" "	Hama

The following nurseries, which were established a few years ago, have been improved:

1 - Maysalun Nursery	Mohafaza of	Damascus
2 - 'Ifrin Nursery	" "	Aleppo
3 - Misyaf Nursery (Warraqa)	" "	Hama
4 - Old Buqa Nursery	" "	Latakia

Production increased later when water and protection from the weather were made available. Production will increase this season from 3.5 to 4 million plants while in the past season it was only 350,000 plants.

This program will cost L.S. 6,081,000 for fixed investment, and L.S. 3,000,004 for the current development expenses.

artificial forestation

Artificial forestation, including the planting of lumber trees in the light of our increased requirements for industrial wood will make available the quantities of wood necessary, thus eliminate the existing inability of the forest to supply the country's need for wood. This program requires L.S. 1,630,000 for investment and L.S. 79,000 for the current development appropriations.

soil conservation

The project for soil conservation is connected with artificial forestation and it is necessary to begin this project in the areas most exposed to erosion, such as the Latakia and Aleppo districts.

It should be noted that this project cannot be executed before the necessary number of technicians are made available.

It will cost L.S. 460,000 for investment, and L.S. 56,000 for current development appropriations.

Exploitation

The exploitation of forests falls within the scope of limiting and organizing the forests by following up courses in exploitation planing. Studies will be made of the varieties grown in the forestry district, and their balance between growth, production and consumption of industrial wood by the country. The economic value of forests is presently confined to the production of pine trees, which can be used for industry; and oak for fuel and the manufacturing of primitive agricultural implements.

This program requires L. S. 70,000 as investment and L.S. 101,000 for the current development expenses.

Research, Experimentation and Forestry Industries

Research and experimentation are very important simply because our forestry wealth is still undeveloped. Many aspects of forestry in Syria have yet to be studied. Research requires funds, scientists and concentrated effort.

As for the forestry industries, the inhabitants of forestry districts or adjacent areas depend on forestry industries to earn their livelihood. These people produce charcoal in primitive ways, extract oils, such as turpentine and laurel oil and extract tar from certain trees, and gum from other trees. There are other industries, such as the extraction of elements for the canning of leather, manufacturing wooden tools for agriculture and the basket making industry, etc.

Pine trees, oak and other trees fill a considerable gap in meeting the requirement of the cities for wood. Certain pine and other trees are used in the manufacture of boats in Latakia.

These industries are all in the primitive stage and operate without guidance. Despite that, they are quite important and ought to be improved and expanded. New industries should also be introduced.

It is imperative that a technical plan be adopted to realize the following objectives:

- Improvement of the charcoal processing industry in order to obtain tar and acids most needed in the making of chemical fertilizers, artificial silk, wood paints and acetone and in order to obtain blue alcohol.
- Improvement of resinic materials from pine trees.

- Encouragement, expansion and improvement of the manufacture of laurel oil.

- Extraction of cork after research into the suitability of the trees. Research can be furthered by sending specimens abroad to explore the commercial value of cork.

- Study of the forestry wood's suitability for modern industries.

This project requires L.S 775,000 as investment, and L.S. 72,000 as current development expenses.

Chapter VIII

AGRICULTURAL GUIDANCE

Syria will be divided into 18 districts with an agricultural guidance unit for each district. The units will be administered by two trained agricultural engineers, three agricultural controllers and ten skilled workers. The program aims at establishing six units in each of the next three years of the development plan.

Because the best method of agricultural guidance is active practice, it will be necessary to establish experimental fields to be planted with various agricultural and gardening products under the guidance of the Ministry of Agriculture which will furnish fertilizers and seeds. The greater the number of such fields, the greater the benefits. It is therefore suggested that in each district about ten fields of one hectare each be established. The total number of fields would reach 180, built at the rate of 60 in each of the next three years. The plan also requires equipping the guidance units with instruments and machines.

The investment necessary for the achievement of such a plan is L.S. 710.000. Current development expenditures are estimated at L.S. 906.000.

Chapter IX

PLANT PROTECTION

Endeavors made to increase agricultural production must necessarily be accompanied by a program for protection from various agricultural diseases and insects.

Agricultural maladies can be divided into categories: first, diseases which greatly menace the national economy, which are characterized by their swift action, contagion, and which attack State properties such as the forests and pastures. The responsibility to combat such disease rests upon the State. Desert locusts, Moroccan locusts, forest pests, and field mice are among the insects to be checked by the State.

The combat of maladies which are dangerous to the national economy and which may cause tremendous damage to agricultural production is imperative. Suna pests which attack wheat, boll worms that attack cotton, flies that attack the olive trees, insects that damage citrus trees, and worms that attack the apple trees and grape vines, must be combatted.

As for the diseases that do not constitute great menaces to the national economy, they may be left to the farmers to check under the guidance of the Ministry of Agriculture.

Protection by the Public Sector

The activities of the public sector are confined to the combatting of two kinds of locusts, grasshoppers, forestry pests and field mice. The average area that is exposed to such pests is estimated as follows:

40,000 hectares of land exposed to desert and Moroccan locusts;
10,000 hectares of land exposed to grasshoppers;
50,000 hectares of land exposed to Jaddum (kind of insects) of both kinds;
70,000 hectares of land exposed to field mice.

The Ministry of Agriculture is presently in a position to undertake combatting operations upon receipt of special equipment for spraying and transportation. The value of this equipment is estimated at L.S. 130,000.

The organization also needs insecticides. Current expenses are estimated at L.S. 806,000.

These expenses are average. However, in emergency situations additional appropriations should be made and the whole set-up reinforced.

Protection by Private Sector

The basis of plant protection by the private sector is the cooperative society which undertakes the protection of the farms of its members. The public sector should extend guidance and when necessary furnish insecticides, cars and equipment. Such materials may be extended in the form of loans to be repaid either after the harvest or on a medium-term instalment basis when equipment and cars are involved.

The implementation of this system requires the consolidation of the structure of the Agricultural Bank and the increase of its capital. The number of cooperatives to be established under the guidance of the Ministry of Social Affairs will reach 1,280 cooperatives in five years. The number of cooperatives which will be established in the agrarian reform districts will reach 1,000 cooperatives.

The following Table . (39) shows the distribution of these cooperatives in five years:

TABLE (39)

Co-operative Program for the Years 1960/1961 - 1964/1965

	60/61	61/62	62/63	63/64	64/65	Total
Credit Cooperatives (Ministry of Social Affairs)	120	200	240	360	360	1,280
Agrarian Reform Cooperatives	200	200	200	200	200	1,000
Total	320	400	440	560	560	2,280

In view of the fact that the cooperatives in the agricultural credit areas will be financed through loans from the Agricultural Bank, and the cooperatives in the agrarian reform areas will be financed by the Ministry of Agrarian Reform, the task of the Ministry of Agriculture will be confined only to guidance on the methods of combatting agricultural maladies.

The investments necessary are estimated at L.S. 1,083,000 and the current development expenses at L.S. 289,000.

It is possible also to enlist the assistance of private companies when undertaking combat operations of farmers outside the cooperatives. Such operations should be under the supervision of the Ministry of Agriculture after it is so empowered.

Table (40) shows the areas and the number of trees that can be protected through the cooperatives.

TABLE (40)

Areas and Trees to be Protected by Cooperatives in the Years 1960/1961 - 1964/1965

(Figures in 1,000 hectares and 1,000 trees)

	60/61	61/62	62/63	63/64	64/65
Agrarian Areas	180	396	678	1,014	1,374
Fruit Trees	720	2,370	3,630	5,520	7,110

Thus, protection could cover an area larger than half of the cultivated area.

Agricultural Quarantine

In order to protect Syria from dangerous new infections and from the spread of existing diseases, as well as to protect harvests from diseases internationally banned for the purpose of export, it is necessary to consolidate the system of agricultural quarantine to supervise the agricultural products imported or made available for export. Control stations and disinfection centers should be established in each of the Latakia, Homs, Yabus and Bab al-Hawa frontier posts.

The investment necessary for this project is estimated at L.S. 450,000, and the current development expenses at L.S. 98,000.

Research on Pests and Plant Diseases

The combat of plant diseases necessarily depends on research programs. The Ministry of Agriculture should be provided with laboratories and the necessary equipment to study insect pests and plant diseases and explore the means of checking them. The program aims at strengthening of the present laboratory in Damascus and the establishment of a research station to study the Suna pests in Idlib. Necessary appropriations have been made for laboratories under the laboratory and research program.

Storage

It is important to build storehouses to store the insecticides and the equipment. There should be ten storehouses: one each in Damascus, Homs or Hama, Latakia, Palmyra, Rakka, Hasakeh, Deir-Ez-Zor, Idlib, Abu-Kamal and Isra'.

This program aims at the building of only five storehouses, costing about L S. 160,000 as investment, and L.S. 51,000 as current expenses.

The building of the remaining five storehouses fall within the next Five-Year Plan.

Chapter X

ANIMAL RESOURCES

The animal resources of the Syrian Arab Republic are estimated as follows:

3,500,000	sheep
750,000	goats
400,000	cows
400,000	horses, mules, asses
4,000,000	birds

The majority of these animals are of inferior stock and give little and uneconomical production during drought. They receive little nutrition and diseases kill about 10 per cent per year. The average animal production is estimated as follows:

35,000	tons of meat
350,000	tons of milk
5,000	tons of washed wool
1,300	tons of goat hair
400	tons of fish
160,000,000	eggs

This average was taken from the computation of the figures of the last four years, although these were the worst years in the last fifteen years in Syria.

This production is far from being sufficient for domestic consumption. The average person does not get more than 20 grams of meat, 275 grams of milk and its by-products, such as cheese, semnah and butter daily, and only one egg every ten days. These quantities provide only 15 grams of animal proteins while international standards call for 35 grams. Taking into consideration the population increase at the rate of 2.4 per cent per year, the continuation of the present rate of animal production would only lead to malnutrition of the people. No efforts should be spared, therefore, to increase production, at least to meet the yearly population increase.

Animal health and hence animal produce is unstable in Syria. Production in certain years my equal four times the rate in other years mainly as a result of fluctuations in the quantity of rainfall and its distribution and in general weather conditions. These fluctuations affect the availability of water and food necessary for livestock, and consequently affect animal resistance to disease and weather changes.

There is no doubt that the possibility of increasing animal resources and production is great when water and food as well as veterinary care and improvement of the breed are made available.

Availability of water

Provision of water for livestock in the desert areas is very necessary. Dependence on rainfall to ensure potable water for livestock is too dangerous as rainfall varies greatly from one year to another. Although there are 100 wells in the desert areas, including those dug by the IPC and tribal wells, the lack of rainfall in the past years exposed herds of sheep to heavy losses. This fact compelled the Ministry of Agriculture to purchase 13 water tankers to transport water. The distribution of water by means of tankers, however, is neither practical nor economical. It is, therefore, imperative that plans be made to procure water by means of digging wells in various parts of the desert.

The Ministry of Public Works dug 46 wells in the last two years in various parts of the desert of which 26 are being used.

The program provides for digging 65 additional wells during the years 1961-1965, in order to secure potable water in the desert.

Table (40) A indicates the investment necessary for the implementation of the program as well as for the exploitation and maintenance of the wells:

TABLE (40 A)

Investment for Wells in the Five Years 1960/1961 - 1964/1965

(Figures in L.S 1,000)

	60/61	61/62	62/63	63/64	64/65	Total
Digging of wells	2,500	1,500	1,125	1,125	1,125	7,375
Equipment for wells	500	500	375	375	375	2,125
Total	3,000	3,000	1,500	1,500	1,500	9,500

Current development expenses required for the full use of these wells by the fifth year are estimated at L.S. 710,000.

Availability of Food

Under this heading are included pastures, fodder for livestock in deserts and populated areas, and food for poultry. A program should be laid down for the procurement of food for livestock and poultry. Sheep depend on natural pastures and green fodder, and later, before sale, on prepared fodder. Poultry depends on agricultural remnants and certain fodder.

The policy of prohibiting crops in dry areas would lead to the restoration of 300,000 hectares of the most fertile pasturage in the desert and would make available sufficient food for the livestock in the desert. When this is accompanied by plenty of rainfall, there would be a tangible increase in the number of sheep.

Grazing must be organized and allowed only at specific periods in order to give the herbs ample time to complete growth. Deteriorated pastures must be replanted with suitable fodder plants and sheep from neighbouring countries must be prevented from crossing the borders for grazing. Nomads, on the other hand, must be given some cultivable areas of the State land in the semi-dry regions in order to enable them to settle down and have a fixed source for their living. These measures would give natural herbs and fodder plants a chance to grow.

The crop rotation system and the introduction of fodder plants and legume crops would make green fodder and legume fodder available.

Seven storehouses have been built to store the fodder. Each of these houses measures about 15,000 cubic meters and can store about 8,000 tons of condensed fodder, or 3,000 tons of unpacked fodder. The Agricultural Bank should establish a branch next to each of these houses in order to facilitate the distribution of fodder on a loan basis.

It is recommended that one more storehouse be built at a cost of L.S. 1,500,000 and L.S.82,000 to cover the current development expenses of the storehouse.

Veterinary Care

The average losses inflicted on animal resources as a result of insufficient veterinary care are estimated at 10 per cent of the total of animals, and 10 per cent of animal products. Veterinary care of desert sheep and animals in populated areas is important to preserve animal resources and to increase animal production.

veterinary care of desert sheep

Desert sheep require the following services:

Annual immunization against smallpox and anthrax. External parasites attacking the sheep, such as lice and ticks, must be combatted twice a year. Blood parasites must also be checked once a year, while liver worms, which usually attack the sheep pasturing in swamps, must be checked twice a year.

If a veterinary controller can, with the assistance of sheep owners, treat and immunize 2,000 sheep daily in the case of external parasites and intestinal worms, 1,000 sheeps against small pox, ticks and blood parasites, and 500 sheep against chest worms; and if we count the total number of sheep at 3 million head (May 1960 estimates) we will need 24 controllers working 250 days per year.

These controllers should be distributed and their tasks organized into mobile veterinarian units, each consisting of 4 controllers, a motor vehicle equipped with treatment apparatus and a pick-up. Every two units will be controlled by a veterinarian.

The following table (41) shows the number of veterinary units and equipment required:

TABLE (41)

Targets for Veterinary Units for Desert Sheep in the Five-Year Plan

	Requirement	Available	Addition
Units	6	4	2
Veterinarians	3	3	-
Controllers	24	8	16
Vehicles	12	8	4
Drivers	12	8	4
Tools and equipment boxes	8	-	8

vaccinations and remedies

The veterinary laboratory will undertake the procurement of the vaccinations, while an appropriation of L.S. 150,000 annually will be needed for the purchase of medicaments.

veterinary care of livestock and poultry in inhabited areas

The number of animals in inhabited areas is estimated at 2 million head of sheep and goats,400,000 cows, 400,000 horses, and 4 million birds.

Supposing a veterinary controller can, in 200 working days, take care of an animal group composed of 10,000 head of sheep and goats, 2,000 cows, 2,000 horses, and 20,000 birds, the number of veterinary controllers needed to take care of all the animals would be 200. Better care may be extended, however, if the total annual working days exceed 200.

The program provides for the formation of one veterinary unit for 4 animal groups, each equipped with a motor vehicle, four workers, and the necessary treatment equipment and medicaments. Each unit should be administered by a veterinarian. The total number of veterinarians and veterinary units needed for the whole program is 50, distributed in various districts of the country.

Taking into consideration the present number of veterinarians, controllers and workers, there are needed 37 veterinarians, 137 controllers, 200 workers and 50 drivers.

At present, there are 63 controllers and 13 veterinarians operating. Three additional veterinarians will be needed in the first year to supervise the present number of controllers. In this manner, the number of complete units will be 16 in the first year of the Plan. Additional units will be formed as follows:

TABLE (42)

Targets for Veterinary Units for Livestock and Poultry in Inhabited Areas in the Five-Yehr Plan

Units	60/61	61/62	62/63	63/64	64/65	Total
Required number of units	16	5	5	12	12	50
Required number of veterinarians	3	5	5	12	12	37
Required number of controllers	-	20	20	48	49	137
Required number of workers	63	20	20	44	49	200
Required number of vehicles	16	5	5	12	12	50

centers of veterinary units

The program aims at establishing 12 veterinary centers throughout the country in addition to the present existing station in Kunaytra. The program aims at establishing 38 branch centers to supplement the rest of the units. There are already six centers: one each in Damascus, Aleppo, Latakia, Hama, Sweida and Kunaytra. Six additional centers will be built, one each in Dor'a, Hasakeh, Deir-Ez-Zor, Rakka and Homs. Branch centers will be made available by renting buildings.

The investment necessary for all the veterinary care program is estimated at L.S. 1,845,000, and expenses at L.S. 2,372,000.

Breed Improvement

sheep

The selection method will be used to improve the sheep stock. The program to select the breeds for meat, milk and wool consists of forming a flock of 500 sheep to be raised at special farms where the breeds will be selected according to production and the rest killed. This flock can produce 200 rams per year. It is also possible to introduce the Merino type sheep for breeding with the local sheep with a view to improving the wool.

cows

The selection method will be used with cows. The local Damascus breed cows may be selected and bred with foreign breeds of high production.

The program aims at building two centers, one for Damascus cows and the other for foreign cows. There will be 100 head of both cows and bulls in each of the centers where selection will be made between the high-producing cows and the rest, the latter of which will be killed. The good cows would be distributed later to agricultural centers and schools or sold to cooperatives and chambers of agriculture.

A similar system will be used with imported cows. The purpose of raising foreign cows in such stations is to adapt them to the country's climate and to eventually bring forth a new breed with the acclimatization of the Damascus breed and the high production of the foreign breed.

It would be possible in this manner to produce 40 well-bred bulls after three years, and 40 bulls annually thereafter.

In the case of the foreign breed, the estimated production is 45 bulls after two years, and 45 annually thereafter. This program may be realized however in two years, by purchasing half the cattle the first year and the other half the next year.

poultry

The program aims at improving the local breed of poultry and introducing foreign breeds. The center of activities will be in Padyu in addition to poultry farms in agricultural schools and poultry farms built by the Ministry of Agrarian Reform.

The investment necessary for this project will be LS. 380,000 and development expenses will reach L.S.261,000. Income from sale of animal by-products is estimated at L.S.122,000.

Fish Wealth

fish sources

At present the fishing industry in Syria produces 500 to 700 tons yearly, giving 175 grams per capita. The country imports large quantities of this vital food in both the fresh and canned forms to make up for the shortage.

sea fish

The length of the Syrian coast is 175 kms. The coast is open to gales and poor in fish shelters and natural harbors. At present, the coast produces from 300 to 500 tons of fish every year.

fresh water fish

There are more than 2,000 kms. of rivers in Syria and the equivalent of 80 square kilometers in lakes and water sources, producing about 200 tons of fish per year.

fishing equipment

a. boats

Sailing boats are used for sea fishing; the length of a boat is 5 - 8 meters. Some are equipped with oars for river and lake fishing. There are also diesel- powered boats for sea fishing using 20 - 30 HP engines. Most boats that are used on lakes and rivers are small, unsatisfactory boats.

b. fishing means

Sea fishermen use all sorts of nets, dredging equipment and attracting lights. Big nets made of cotton and nylon are imported, while small nets are locally made.

Although small sea nets are not adapted for fresh water fishing they are used on rivers and lakes.

sponges

Around the island of Arwad and in the regional waters of the Syrian Arab Republic and the Lebanese Republic, there are sponge fields. In normal years, the average production is 3 tons. The season is between June 1, to September 30. In 1958, production reached 5 tons which resulted in poor fields. The increase was of small and cheap kinds. About 20 to 25 middle-sized boats equipped with diesels and diving equipment are engaged in sponge fishing. There are still a number of fishermen who prefer free driving. Safety precautions in diving are not well organized, and, this results in many serious accidents.

fishing and fishermen

Undoubtedly the quantity of fishes and sponges produced in Syria is small compared with water resources, the number of fishermen and the need for consumption. This is due to several factors, chiefly:

a. The use of dynamite on a large scale for a long period, which has destroyed an important part of the fishing resources.

b. The drainage of the Ghab and the expansion of irrigation.

c. The fishermen's ignorance of their profession, the poor quality of equipment, and their reliance on ship owners who keep the lion's share. The income of a fishermen is L.S. 800 to L.S. 1,000 per year in return for 6 to 8 month's work, which is the lowest income of an unskilled laborer in Syria and below the essential needs of a worker's family of 5 persons.

program objectives

The program aims at continuing research for fish resources, breeding, exploitation, training fishermen, marketing fish and sponges, the formation of cooperatives and expansion in the building of basins. This requires large sums of money and a large number of experts which cannot be realized during the next five years. Therefore, it was decided to curtail this program within the limits of execution possibilities, provided it would be expanded in the next five years when all its objectives could be realized.

a. Water Creatures' Institute in Latakia

This institute aims at continuing research on resources of sea fish, and determining the best methods for fishing, storing, diversion and marketing. It will consist of a building for the administration and laboratories, and a hall for a collection of sea creatures. An expert assisted by assistants will be in charge. The project requires L.S. 215,000 as investment and L.S. 21,000 as current development credits.

b. fish raising station in Al-Modiq Fortress

In view of the decline in fish production from 1,000 to 200 tons annually in fresh waters as a result of irrigation and dams, the Major Projects Administration built basins in the Al-Modiq Fortress area for fish experimentation with a view to improving fish production. In the spring of 1959, the Ministry of Agriculture started experimentation in these basins. These experiments have indicated productive possibilities, but this farm is far from cities and experimentation requires on-the-spot observation and scientific methods. Therefore, it is essential to complete this farm with buildings, equipment, employees, and a sufficient number of workers. Necessary investment for the project is estimated at L.S.85,000 and current development credits at L.S.244,000.

c. fish raising farms

The Butayhah farm aims at exploiting stream waters entering the Sea of Galilee and gathered in the lowlands situated east of the bank between the two gulfs of Mas'adeh and Zakiyah. These lands are unfit for other exploitation.

The area planned for basins is about 10 hectares. Construction will cost about L.S.150,000. The expenses of operation are L.S.5,000 annually. The annual production is estimated to reach 25 tons of the carp and mabruk fish, the value of which is estimated at L.S.35,000. The private sector will undertake this project to which the Ministry of Agriculture will give technical services with its present machinery.

The Ghab Project includes the establishment of three farms for fish raising in artificial lakes at 'Ayn Al-Taqqa, Al Hawwash, and 'Ayn Al-Na'ur, the total area of which is about 750 hectares. The Ministry of Public Works will undertake the execution of this project.

The Ministry of Agriculture will stock the Qatinah and Mas'adeh lakes and other rivers in the country with good breeds raised in fish experimentation basins. This will be undertaken so as to improve fish resources in lakes and rivers.

d. cooperative societies of fishermen

This project aims at consolidating the production possibilities of fishermen and equipping them with modern means for fishing, marketing, and financing. It has been decided to form five cooperatives, one in Latakia including the Jablah area, one in Arwad including Banias and Tartus, a sponge cooperative in Arwad, a fish cooperative in Qatinah lake including the Orontes Valley, and a fish cooperative in the Euphrates Valley including the Khabour.

The project is based on loaning these cooperatives the necessary sums on short terms not exceeding one year, and long terms not exceeding 5 years, according to credit facilities extended by the Agricultural Bank.

Necessary investment for the program of fish resources is estimated at about L.S.1,075,000. Current development expenses amount to L.S. 48,000.

Chapter XI

EXPERIMENTAL STATIONS AND LABORATORIES

The main aim of building experimental stations and laboratories is to meet the need of the Ministry of Agriculture for scientific research and experimentation and to empower the research staff of the Ministry to execute the agreed research program within the Five-Year Plan. The plan includes completing the construction of the following:

an irrigated crop research station in Rakka, two dairy-product factories in Damascus and Aleppo, a laboratory center in Aleppo and Damascus, an agricultural quarantine station in Latakia, an agricultural experimental station in Idlib, a potatoe research center in Sargaya, an agricultural center in Kunaytra, a pasture research center in Wadi Al-Usayib, a veterinary laboratory in Damascus, an agricultural center in Hasakeh and an arid crop research station in Kamishli.

The Objectives

Damascus and Aleppo dairy products factories

The construction of these two factories in Damascus and Aleppo was started with the cooperation of UNICEF. The aims of these factories are as follows:

a. Spreading the consumption of pasturized dairy products in both Damascus and Aleppo and checking the spread of various diseases through infected milk and its by-products.

b. Distributing of 10 per cent of the production of both factories to poor mothers.

c. Encouraging the raising of milk-producing cows in the agricultural areas surrounding Damascus and Aleppo in order to meet the milk requirements or both factories. The daily capacity of the Damascus factory is a maximum of 30,000 liters, and of the Aleppo factory is a maximum of 20,000 liters.

the research station for irrigated field crops in Rakka

The construction of this station was started at the beginning of 1959. The land has been enclosed and construction of the administration buildings has begun. The aims of this station are as follows:

a. To determine what crops could be introduced to the Euphrates valley.

b. To decide what crop rotation could be followed in the Euphrates valley, determine suitable farming methods and fertilizer ratios.

c. To set a sound scientific basis for agriculture in the Euphrates valley which could be depended upon after the irrigation projects are executed.

d. To guide the expansion of cattle and poultry raising in the district in the light of studies made by the station.

Damascus Laboratory Center

Construction of this center has been started. It will include: a soil and ecology laboratory, an insect pest and plant disease laboratory, a laboratory for agricultural and dairy industries, an aerial photography laboratory, a germinating laboratory and a plant cell inspection laboratory.

Aleppo Laboratory Center

Construction of this center is expected to be completed at the end of this year. It will include: a yarn and staple laboratory, a laboratory for estimating cotton humidity, a germinating laboratory, a cereal technology laboratory and a soil testing laboratory. In addition, there will be an agricultural museum and buildings for the directorate of the Cotton Board and agricultural departments. This Center will serve the purposes of scientific research as regards cotton and cereals.

Agricultural Experimental Station in Idlib

This will be a model agricultural center including a research laboratory on the Suna insect pest. It will serve field scientific research purposes as regards important crops in Idlib district, especially vegetables, fruits and field crops.

Agricultural Quarantine Station in Latakia

The aim of this station is to inspect exported and imported agricultural commodities and sterilise agricultural consignments, and to undertake scientific studies with regard to various sterilizing methods that could be followed.

Pasture Research Center in Wadi Al-Uzayib

The aims of this center on which work has been started are: to define the grazing cycle that should be followed in the desert and the effect of organized grazing on the practice of replanting pastures and to define the types of pasture herbs that could be successfully grown under dry desert conditions, as a preliminary step to resowing.

Potato Research Center in Sargaya

The aim of this center, on which work has been started, is to undertake experiments for increasing the local supply of potato seeds in order to do without importation of such seeds from abroad. In addition, the center will undertake a comparative study of the different types of apple trees in order to determine which types can be successfully grown in Syria.

Agricultural Center in Kunaytra

Work has been started on this center. It aims at studying suitable crops that could be cultivated in the Kunaytra district which has special ecological characteristics. In addition to acting as a center for guidance, veterinary care and artificial insemination, it will be used as well for increasing fruit and forest seedlings.

Veterinary Center in Damascus

This center has already been completed. It includes a laboratory for veterinary research, the production of vaccine, a veterinary clinic and a station for veterinary care and artificial insemination. It is in need of technical equipment as well as additions to its technical staff.

Agricultural Center in Hasakeh

Work has been started on this center, which aims at undertaking agricultural guidance experiments to serve the Hasakeh district, especially with regard to irrigated crops.

Required investment for these stations and laboratories is estimated at L.S.4,545,000. Current development expenses are estimated at L.S. 1,903,000.

Chapter XII

AGRICULTURAL EDUCATION

The five-year plan for agricultural education in Syria has been set in such a way as to correspond with ecological needs and to fill the great gap in agricultural technical education. This plan is a needed step towards spreading agricultural education in the various agricultural districts. But Syria is in need of several five-year plans in order that agricultural education may reach the required standard and fill Syria's need for professionally trained farmers, peasants and agricultural workers of both sexes.

It is needless to say that the great success of agriculture in Denmark, Holland and Belgium has not been achieved by chance, but it has been a natural consequence of the spread of agricultural education.

The Broad Aims of the Five-Year Plan

Schools of various types and standards should be made available in Syria in order to provide agriculture with the necessary skilled manpower such as engineers, overseers, foremen and farmers. The following main projects have been included in the Five-Year Plan:

the completion of the present agricultural secondary schools

All the present agricultural schools in Syria have been transformed into secondary schools aiming at graduating farmers, foremen, farm deputies, overseers and guides.

It is very necessary to complete the equipping of these schools whose technical capabilities are still limited. These schools still lack various departments and need more equipment.

As it is important to take care of quality before quantity, the funds for the needed equipment and departments have been earmarked in the Five-Year Plan in order that these schools may perform their technical and educational duties in the best possible manner. It is desired that each school serve as a model and act as a technical core for the whole district in which it is located.

the establishment of an agricultural-secondary school in Hasakeh Mohafaza

It has been decided to establish a secondary agricultural school in Hasakeh Mohafaza for the following reasons:

a. This district is rather isolated, especially from the technical point of view, due to the poor communication and transportation system connecting it with the rest of the country.

b. The importance of this district from the agricultural point of view.

c. The need of this district for rapid agricultural development and the necessity of attracting its children to the agricultural schools.

the establishment of an agricultural secondary school in the Ghab Mohafaza

It has been decided to establish an agricultural secondary school in the Ghab district owing to the vital importance this district will have in the agricultural sector after the implementation of the Ghab irrigation project. This school is to replace the agricultural secondary school in Salamiah. This school was forced to change over to a training center for some branches of agricultural specialization that do not require many fields because of droughts.

Other factors that made the establishment of this school necessary are: the transformation of the agricultural secondary school in Damascus (Kharabo) to an Agricultural College; and the necessity of establishing an agricultural school in a central location in Syria, to which pupils could be sent from the districts of Damascus, Sweida, Der'a, Homs and Hama.

seasonal training centers

These centers have the role of practical schools. That is, they aim at training and graduating farmers and agricultural workers trained in the best possible manner from the practical point of view. These centers also have the role of specialized schools in that they offer courses on all aspects that are of interest and importance to farmers and peasants of the district in which such centers are located. This will allow the introduction of modern agricultural developments in a rapid manner compatible with agricultural realities.

The plan comprises the establishment of three centers in Kamishli, in Damascus and in Der'a. These centers will be furnished with the necessary tools and equipment. It must be pointed out here that such centers should be spread in the future to all parts of Syria.

Expenditures for the program of agricultural education are estimated at L.S.5,864,000. Current development expenses are estimated at L.S. 642,000.

agricultural college

It has been decided to establish an agricultural college in Aleppo and a high agricultural institute in Damascus. Funds necessary for the college and for the institute have been earmarked in the budget of the Aleppo University and the Ministry of Education.

PART THREE

INDUSTRY, MINING, PETROLEUM

AND

ELECTRICITY

Chapter I

INVESTMENT, PRODUCTION, INCOME AND EMPLOYMENT

Investment and its Distribution

. The share of industry, mining, electricity, and petroleum will amount to nearly L.S.509 million out of the total investment likely to be executed during the next five years. Investments in this sector amount to 18.7 per cent of the total development investments. This rate was fixed on the following bases:

- The rate of the anticipated increase of income in each of the economic sectors. It has already been stated that doubling the national income within ten years requires the distribution of available investments between the economic sectors according to the productivity of each sector, and priority must be given to the sectors which are expected to increase the national income more rapidly and in a bigger volume than other sectors. For this reason, irrigation projects have been given the highest percentage of the available investments, next comes transportation and communication projects and industrial projects.
- Present available possibilities, with respect to natural resources, raw material, employment, technical experience and other factors affecting the volume and cost of industrial production.
- Local and foreign demand for industrial products.

The total investment of the public sector in industry, mining, and electricity amounts to about L.S.240 million or 47 per cent of the total. There remains the sum of L.S.269 million for the private sector, or 53 per cent of the total investments in the industrial sector. The public sector specializes in the execution of mining, research and exploration projects, whereas the private sector specializes in industrial transformation projects and other projects whose cost of establishment is within the capabilities of the private sector.

The following table (43).) indicates the distribution of the total investments in industrial, mining, electrical and petroleum projects:

TABLE (43)

Distribution of Investments in Industry, Mining, Electricity, and Petroleum

Industry	L.S. Millions	L.S. Millions	Per cent
Electrical		63	12.4
Mining		30	5.9
Petroleum		211	41.5
Chemical Industries		131	25.8
Nitrate fertilizers	90		
Phosphate fertilizers	4		
Sulphuric acid	4		
Caustic Soda	7		
Other chemicals	26		
Engineering Industries		31	6.1
Scrap iron	18		
Others	13		
Agricultural Industries		38	7.5
Sugar	13		
Tobacco	10		
Other food industries	15		
Miscellaneous		5	0.8
Total		509	100

Production Objectives

The distribution of investments among the various industrial, mining and electrical projects is based chiefly on the following criteria:

- Exploiting Syria's possibilities of raw material, petroleum, agriculture, and the generation of electric power at reasonable prices.
- Securing the requirements of industrial commodities whether for direct consumption (such as food industries), the requirements of agricultural production (fertilizers), or construction (cement) etc., and the possibility of exporting these commodities.
- Supporting the existing industrial base either through

horizontal or vertical expansion, and later by the establishment of new industries.

- Securing the necessary technical experience, by establishing institutions and centers for professional training.

The basic production objectives in the industrial sector have been fixed as follows:

TABLE (44)

Distribution of Investment in the Industrial Sector

Type of Industry	Basic Unit	Production in the base Year	Production in the fifth Year	Increase
Electrical	Million wts.	300	700	400
Mineral exploration	-	-	-	-
Crude oil	Million tons	-	2	2
Nitrate fertilizer	Thousand tons	-	120	120
Phosphate fertilizer	"	-	50	50
Sulphuric acid	"	-	25	25
Caustic soda	"	-	7.5	7.5
Cement	"	450	700	250
Iron products	"	-	15	15
Manufactured tobacco	"	4.2	5.1	0.9
Sugar	"	61	80	20
Cotton yarn	"	10.7	25	14.3
Wool yarn	Tons	322	400	78
Cotton & woolen textiles	Thousand tons	22.3	30	7.7
Vegetable oils	"	40	51	11
Industrial oils	"	2.5	3	0.5
Soap	"	17	24	7
Glass	"	13.4	19.2	5.8
Matches	Thousand gross	736	960	224

Income

At the end of the first Five-Year Plan, income from the industrial, mining and electrical sector is expected to reach 425 million, that is, an increase of L.S.150 million over the base year. The rate of increase is 55 per cent. This income amounts to nearly 13 per cent of the total income resulting from all aspects of economic activity, or an increase of 11.5 per cent over the base year. The major part of this income results from the basic industries such as petroleum, electricity, fertilizers, cement and others.

The following table (45)) indicates the income from the main industrial activities:

TABLE (45)

Income Resulting from Major Industrial Activities

(In L.S. Million)

Type of Industry	Net Income
Electrical	25
Petroleum	55
Nitrate fertilizer	21.5
Super phosphate fertilizer	1.8
Sulphuric acid	1
Caustic soda	2.5
Cement	6.9

Employment

The number of laborers in the fields of industry, mining, and electricity in the year 1959 is estimated at 90,000. This number is expected to become 125,000, an increase of 35,000. The following table (46) indicates the increase in the number of laborers in the chief industries:

TABLE (46)

The Increase of Laborers in the Chief Industries at the End of the Five-Year Plan

Type of Industry	Increase in the number of Laborers
Electrical	3,000
Petroleum	10,000
Chemical	4,000

Chapter II

INDUSTRIAL PROJECTS

Petroleum Industry

The quantity of oil in the Karatchuk field alone is estimated at about 120-150 million tons. Forty to fifty million tons could be extracted over a period of 25 years with a yearly production of 2 million tons, valued, after the deduction of the transport expenses, at L.S. 55 million in foreign exchange. This new revenue excels other types of revenues of the country by its relative stability, which is important to the economy of the country in view of the wide fluctuations in agricultural production. Accordingly, the petroleum industry received the largest proportion of investments in the industrial field. Its share amounts to L.S.211 million or 41.5 per cent of the total investments in this sector.

The distribution of investments among the various petroleum projects of the first Five-Year Plan was set up on the basis of securing the exploitation of crude oil in the Karatchuk field and helping in the industrialization of a part thereof according to the requirements and technical possibilities of the Country. In addition to the necessary construction for the exploitation of the Karatchuk field, the Five-Year Plan includes storage facilities, pipelines to transport petroleum to centers of exportation and consumption, a unit for the production of bottled gas, a unit for filling oxygen, an asphalt plant, etc.

TABLE (47)

Cost of Petroleum Projects and Production

Project	Costs in L.S. Million	Value of yearly production in L.S. Million
Karatchuk field including transportation	135.0	70
Exploration for petroleum	50.0	-
Exploration for gas	2.5	-
Transportation of refinery products	16.5	4
Storage facilities	2.0	2
Asphalt plant	5.0	2
	211.0	78

Investment Plan for Petroleum Projects

the Karatchuk field

Funds to be invested during the next five years amount to L.S.135 million, of which 83 million will be in foreign exchange and L.S.52 million in local currency from the private or public sector. The following table (48) indicates investment details:

TABLE (48)

Investment in Karatchuk Field in the Five Years of the Plan

Year	Foreign Exchange L.S. Million	Local Currency L.S. Million	Total L.S. Million
1959/1960	2	2	4
1960/1961	1	4	5
1961/1962	8	7	15
1962/1963	37	23	60
1963/1964	35	16	51
Total	83	52	135

During the year 1960/1961 exploratory drillings operations will continue. In 1961/1962 the drilling of productive wells and the study of the pipelines will begin. In 1962/1963 and 1963/1964 the construction of wells will be completed and pipelines will be laid. In 1964/1965 the transport of crude oil and its marketing will begin. If production reaches 2 million tons annually valued at L.S.700 million, from which transport fees at the rate of L.S.7.5 per ton or L.S.15 million per annum will be deducted, the net value of production will be L.S. 55 million.

exploration for petroleum

Negotiations are underway to sign a contract with the Soviet Union for petroleum exploration and deep digging. The amount to be invested is L.S. 50 million.

exploration for gas

Amounts which will be invested in this project amount to L.S.2.5 million of which L.S.1.5 million will be in foreign exchange and one million in local currency. This project will be started in 1960/61 and completed in 1961/1962. In the light of the results of the exploration operation, investment and financing methods will be determined.

pipelines for transporting the Homs Refinery products

A contract for the execution of the following pipelines is expected this year:

1. Homs-Damascus
2. Homs-Aleppo
3. Latakia-Homs

Funds to be invested in this project amount to about L.S. 28 million; 20.4 million in foreign exchange and 7.6 million in local currency from the public sector. This project is expected to save L.S. 4 million of the present costs of transport by tank-trucks.

Following are details of the investments:

TABLE (49)

Investments in Pipelines for the Homs Refinery in the Five Years of the Plan

Year	Foreign Exchange L.S. Million	Local Currency L.S. Million
1960/1961	1.4	3.8
1961/1962	-	3.8
1962/1963	2.5	-
1963/1964	2.5	-
1964/1965	2.5	-
Total	8.9	7.6

storage depots

Investments for this project amount to L.S. 2 million which will be spent within the year 1960/1961. They will earn an income estimated at L.S. 2 million per year, in addition to the present depots.

augmenting the efficiency of the asphalt system in Homs

Investments for this project amount to L.S. 5 million; L.S. 4 million in foreign exchange and L.S. 1 million in local currency. This project will be started in 1963/1964 and will be completed in 1963/1964. The value of the production of this system will amount to L.S. 2 million per year.

investments in refining (the Homs Refinery)

The following table (50) indicates production and possible investments in refining for the next five years:

TABLE (50)

Investments and Production Targets in Refining, 1960/1961 - 1964/1965

Year	Tonnage Million Tons	Value L.S. Million	Expenses L.S. Million	Production Cost L.S. Million	Profit L.S.Million
1960/61	0.8	45	10.7	60	4
1961/62	0.9	51	10.85	67.5	5.65
1962/63	1.1	62.2	11.2	82.5	9.1
1963/64	1.2	67.9	11.5	90	10.6

This table was based on the present price of crude oil and oil products. Instalment payments due to the Techno-Export Co. are deducted from profits, and the remaining profits are transferred to the Public Debt Fund.

Chemical Industries

Chemical industries come second after petroleum industries in the share of the total investments allocated for the industrial sector. Their share is L.S. 131 million or 25.8 per cent of the total investments. The project of the nitrate fertilizer plant comes first. Its costs are estimated at L.S. 90 million. This is in order to secure the country's needs for this basic agricultural material. These needs are expected to increase greatly with the expansion of the agricultural areas as a result of the execution of the irrigation projects and the vertical expansion program in agriculture.

The public sector will undertake the execution of the nitrate fertilizer plant in view of its high costs. Other chemical industries have been left to the private sector, and the costs are estimated at L.S. 41 million. They include the project of a plant for super phosphate, a plant for sulphuric acid, a plant for caustic soda, and other projects, such as plastics, paints, etc.

The following table (51) indicates those projects, costs and the volume of production:

TABLE (51)

Major Projects of Chemical Industries

Project	Production Output	Total Capital L.S. Million	Number of Workers and Technicians
Nitrate fertilizer plant	120,000 tons	90	1,000
Super phosphate plant	50,000 "	4	240
Sulphuric acid	25,000 "	4.4	80
Caustic soda	7,000 "	7	200
Paints and varnish	800 "	1.6	65
China ware and porcelain	3,000 "	5	325
Expansion in glass factory		2.5	110
Antibiotic medicine preparation		1	50
Expansion in ordinary medicing industry		2	100
Citric acid	500	1	50
Research and testing centers		3	160
Formica sheets	60,000 sq.m.	6	35
Extraction and blowing plastic	780 tons	1.35	110
Plastic formation	300 "	0.85	100
Plastic injection	3,000 "	3.5	250
Plastic sponge	310 "	1	65
Bicycle and motor cycle tires	105,000 tires	1	100
Rubber toys and gloves	1,700,000 pieces	0.7	65
Clothes and felt coated with rubber	250 tons	0.9	80
Rubber tubes, belts, and joints	8 tons	1.35	107

Electrical Projects

Total investments for electricity amount to L.S.63 million or 12.4 per cent of the total investments in the industrial sector. The public sector has the greatest share, namely L.S.54 million and the remainder, L.S. 9 million, is left for the private sector.

The following table (52) shows present capacity and power targets for electricity:

TABLE (52)

Present Capacity and Power Targets for Electricity

Institution	Present	Power in Kwts to be added	Total
Damascus	26,550	80,000	86,550
Aleppo	25,000	25,000	50,000
Homs and Hama	6,100	57,500	63,600
Others	2,712	5,000	7,712
Total	60,362	147,500	207,862
Municipalities	8,603	11,000	19,603
Industrial companies	55,111	25,000	80,111
Grand Total	124,076	183,500	307,576

The following table (53) ; indicates the units which will be completed during the years of the plan:

TABLE (53)

Completion Dates for Electrical Projects

Capacity	Method of Generation	Year Completed
Damascus		
The first unit 5,000 Kwts	Steam	1960
The second unit 15,000 Kwts	"	1961
The third unit 15,000 Kwts	"	1962
The fourth unit 25,000 Kwts	"	1964
Aleppo		
The first unit 12,500 Kwts	"	1962
The second unit 12,500 Kwts	"	1964
Homs and Hama		
The first unit on the Rastan Dam 7,000 (seasonal Kwts)	Water	1961
The second unit 15,000 Kwts	Steam	
The third unit 15,000 Kwts	"	1965
The fourth unit 20,000 Kwts	Water	
Kamishli		
Unit 2,000 Kwts	Diesel	
Deir-Ez-Zor		
Unit 1,040 Kwts	Diesel	

In addition to the above table, the Ministry of Municipal and Rural Affairs will execute, during the years of the plan, a program for the electrification of 147 villages with a total basic capacity estimated at 11,025 Kwts which would secure the electrification of all towns and villages whose population is more than 2,000 as well as the expansion of present projects to meet the increase of consumption during the next five years.

Food Industries

The share of food industries in total investments allotted to the industrial sector is L.S. 38 million or 7.5 per cent. It has been taken into consideration when choosing these industries, the industrialization of local agricultural raw materials, the needs of the country and the possibilities of exporting some industrial food commodities.

All these industries will be undertaken by the private sector with the exception of the project for the expansion of the tobacco industry which is the responsibility of the public sector, and whose costs are estimated at L.S. 10 million. Table (54) shows the most important of these industries with costs and anticipated production:

TABLE (54)

Food Industries Projects

Project	Production Capacity	Capital in L.S.Million	Number of Laborers
Fodder plant	10,000-15,000 tons of concentrated fodder per year	1.5	62
Olive oil refining	25 tons daily	1.5	33
Classification of fruits & vegetables	20 tons per 8 hour day	1	52
Expansion of sugar beet refining	6,000 tons daily	13	2
Expansion of canning industry		1.5	62
Refrigerating warehouses	6,000 tons	1.5	82
Expansion of starch and glucose industries	3,000 tons per year	1.5	153
Artificial ice		0.5	11
Onion drying	30,000 tons annually	1	62
Drying and packing of figs and raisins (3 Units)	50 tons annually	0.7	11

Engineering Industries

The share of these industries is L.S. 31 million, or 6.1 per cent of the total investments in the industrial field. They were all allotted to the private sector.

Table (55) shows the most important of those industries and their costs and production capacity.

TABLE (55)

Engineering Industries Projects

Project	Production Capacity	Capital in L.S.Million	Number of Laborers
Scrap iron	15-20 thousand tons	18	300
Small electric motors and transformers	38,400 + 45,600	0.750	105
Electric fuses	102,000	0.825	100
Electric bulbs	one million	0.725	50
Metal moulds and thermal treatment	unlimited	0.250	50
Iron pipes	12,000 tons	4,500	250
Spoons, forks and knives	96 tons	0.325	50
Light construction materials	30,000 cubic meters	1.100	100
Eternit pipes	3.000 tons	3.000	150
Woodwork	-	0.440	110
Modern furniture and upholstry	-	0.675	120
Art furniture and carpentry	-	0.275	35

Mining Projects

Information and data pertaining to most raw materials in Syria are still meager with regard to the extent of their suitability for economic exploitation. During the first stage of the industrial program, exploration, research and geological and mining studies will be conducted. Next follows the stage of expansion as regards the use of these minerals, whether for local consumption or for export.

Table (56) indicates the projects during the years of the plan, the necessary capital for each, and the number of laborers:

TABLE (56)

Mining Projects

Name of Project	Capital	Number of Laborers
Completing the geological map 1/200,000	3.600	348
Topographical maps 1/200,000	3.155	140
Completing the geological map 1/50,000	1.200	280
Completing exploration for iron	16.250	642
Completing exploration for chromium, maganese and asbestos	0.150	52
Extraction and cleaning salt	1.400	180
Exploration for phosphate	0.600	66
Exploration for isotopes	0.400	37
Exploration for lead and zinc	0.350	62
Exploration for hard combustibles	0.300	50
Marble	0.454	62
Increasing asphalt production	1.100	20
Exploration for thermal items and porcelain	0.300	33
Exploration for black sand	0.250	41
Exploration for plaster and lime	0.195	39
Exploration for sulphuric water	0.075	19
Exploration for sand used in glass production	0.130	30
Exploration for copper	0.050	23

PART FOUR

TRANSPORTATION AND COMMUNICATION

CHAPTER I

OBJECTIVES, INVESTMENTS AND INCOME

1. The Five-Year Development Plan in the sector of transportation and communication has been laid down on the basis of coordinating the projects of this sector with the actual requirements of Syria, and on timing the implementation of these projects in such a manner so as to guarantee maximum benefits and to complete them gradually together with the irrigation, agricultural expansion and industrial development projects.

2. On this basis, the objectives of the development in the field of transportation and communications are as follows:

TABLE (57)

Development Targets in Transportation and Communication

Project	Unit	Base Year	1964/1965
Railways			
Kamishli-Latakia (under execution)			
Railway freight	Million tons/kms.	-	1,000
Locomotives	Number	-	26
Railroad cars	Number	-	1,250
Roads			
Asphalted-principal and branch	Kms.	4,000	5,450
Strengthening and widening asphalted principal roads	Kms.	400	1,600*
Harbors			
Tartus	1,000 metric tons	-	250
Post Office, telegraph, telephone			
Offices	Number	60	88
Telephones	1,000	54	97/8

(*) From original total length of 5,450 kms.

3. The investments necessary for the first Five-Year Plan for the realization of these objectives are estimated at L.S.537 million, or 20 per cent of the total investments, of which the public sector will bear L.S. 387 million and the private sector will bear the rest (L.S. 150 million). This amount particularly involves vehicles of all types and the necessary construction.

Table (58) shows the investments distributed according to projects in the public sector:

TABLE (58)

Public Investment in Transportation and Communication

Project	L.S.	Per cent of Total Investment
Roads	60	15.5
Bridges	14	3.6
Wireless and telecommunications	55	14.2
Post	4	1.0
Radio and television	8	2.1
Tartus Port	33	8.5
Airports	40	10.4
Railroads	173	44.7
Total Projects, Public Sector	387	100.00
Total Projects, Private Sector	150	
Grand Total	537	

This distribution was made according to the following priorities:

a. Coordination of the road and railroad projects with those of irrigation and agriculture.

b. Connection of the ports with the producing areas of the country.

c. Execution of projects characterized by high and rapid productivity.

d. Consolidation of telecommunications between Egypt and Syria.

e. Benefits accruing from the Country's strategic situation for international communication and trade.

f. Realization of economic completion in the communication and transportation fields.

4. The income from the five-year development plan in the fields of communication and transportation is estimated at L.S.209 million, constituting an increase of L.S.65 million, or 45 per cent from the base year. At the end of the plan, the income from the communication and transportation fields will be 6.2 per cent of the total national income, as opposed to 6 per cent in the base year.

CHAPTER II

TRANSPORTATION AND COMMUNICATION PROJECTS

Railroads

The development plan in the field of railroads aims at the following two main objectives:

First - Construction of new railroads

Second - Improvement of the present railway network.

For the realization of these two objectives in the next five years, an appropriation of L.S. 173 million has been made, of which L.S. 93 million will be in local currency, and L.S. 80 million in foreign currencies. The following table (59) shows the investments for the next five years, 1960-1965:

TABLE (59)

Railroad Investment in the Five-Year Plan

Year	Local Currency L.S. Million	Foreign Currency L.S. Million	Total
1960/1961	16	14	30
1961/1962	19	16	35
1962/1963	20	17	37
1963/1964	21	17	38
1964/1965	17	16	33
	93	80	173

First - Construction of New Railroads

This section of the program involves the construction of a railway connecting Latakia with Aleppo and Kamishli. The preliminary studies for this vital project have been made and execution has begun with the hope that the project will be realized during the second Five-Year Plan.

This project has been planned so as to be able to handle transporting the expected increase in agricultural products. This increase is expected to reach 1,104 million kilometer/tons within the next five years and to reach 2,000 million kilometer/tons within the next ten years. The total length of this line will be 757 kilometers, passing through Latakia, Kafraya, Badama, Jisr, Aleppo, Maskana, Rakka, Deir-Ez-Zor, Hasakeh and Kamishli.

The technical calculations indicate that each kilometer/ton transported by motor vehicles costs 9 Syrian piasters, while transportation by railroads will cost 5 Syrian piasters at the beginning of the plan and will drop to 3.5 Syrian piasters when the volume of transportation increases to two billion kilometer/tons. The annual income of this line is expected to reach L.S. 11 million when the value of transportation increases to one billion kilometer/tons, and L.S. 16 million if this volume is doubled. In addition, this line will serve international trade.

Second - Improvement of Present Railway Network

The program aims at repairing the present railway network, which includes the Aleppo-Homs and the Homs-Tel Kalakh lines which will be provided with modern equipment. In addition, an agreement was reached with the Hashemite Kingdom of Jordan and the Kingdom of Sa'udi Arabia to recommission the Damascus-Al Madina (Hijaz) railway with a view to reviving tourist activity during the pilgrimage season and to encourage transit trade as well as to connect the Arab States with each other.

Road Construction Projects

1. Syria presently depends on the road network for transportation. This network, which requires improvement, however, is inadequate for the increasing requirements of the country. It is imperative, therefore, to construct new roads in addition to railroads. A Five-Year Plan has been drawn up for the following:

a. Reinforcing and widening the present first class international roads.

b. Paving and asphalting sections of roads of international importance and those first class roads which are still unpaved.

c. Construction of new roads.

2. An amount of L.S. 60 million has been appropriated for the Five-Year Plan, of which L.S. 53 million will be in local currency and the rest, L.S. 7 million in foreign currency.

The following table (60) shows the distribution of the investment among the three categories:

TABLE (60)

Road Construction Projects in Five Years

(Figures in L.S.1,000)

Category	1960/61	1961/62	1962/63	1963/64	1964/65	Total
a. Reinforcing and widening present main roads	4,000	6,500	6,500	6,500	6,500	30,000
b. Asphalting and paving incomplete roads	2,500	4,500	4,500	4,500	4,000	20,000
c. Construction of new roads	1,500	2,500	2,000	2,000	2,000	10,000
Total	8,000	13,500	13,000	13,000	12,500	60,000

Bridges -

An overall amount of L.S. 14 million has been appropriated for the building of new bridges on the Euphrates and Khabour rivers.

a. Euphrates Bridges

The total length of the Euphrates river in Syria is 672 kilometers, and the width varies between 500 and 1,000 meters.

There are only two bridges on this river, one in Rakka and the other in Deir-Ez-Zor, but they do not meet present transportation requirements. Therefore, it has been resolved to build two new bridges; one in Rakka and the other in Deir-Ez-Zor.

b. Khabour Bridges

The length of the Khabour river is about 300 kilometers and the width varies between 50 and 80 meters. There is only an old Roman bridge on this river at its source in Tel Halaf, another iron bridge in Hasakeh, and a third bridge, also iron, in Shaddadah (near kilometer 47 on the Hasakah-Deir-Ez-Zor road). The last two bridges are about 2.80 meters wide and permit only one way traffic.

Construction of the following bridges are therefore planned:

1. A bridge in Ras Al-Ayn (Tel Halaf)
2. A bridge in Tel Tamar
3. A bridge in Hasakeh in lieu of the present bridge which is no longer suitable for traffic.
4. A bridge in Shaddadah in lieu of the present bridge which is no longer suitable for traffic.
5. A bridge in Al-Sur.

The investment necessary for the construction of these bridges is estimated at L.S. 14 million in five years, of which L.S. 10 million will be in local currency and L.S. 4 million in foreign currencies. The following table (61) shows the distribution of the investments according to the timing of execution:

TABLE (61)

Bridge Investments in the Five-Year Plan

	1960/61	1961/62	1962/63	1963/64	1964/65	Total
L.S. Million	2	3	3	3	3	14

Wireless and Telecommunications

The needs of the populace for wireless and telecommunications is increasing within the towns, between towns and between Egypt and Syria. The Five-Year Plan aims at meeting present needs and at securing future requirements. The projects described below have been set for this purpose.

— — —

The Plan aims at increasing the automatic telephone lines by 43,000, distributed as follows:

TABLE (62)

Increase in Automatic Telephones by end of Plan

City	Present Number of telephones	Number by End of Plan	Increase
Damascus	26,200	48,000	21,800
Aleppo	15,000	30,000	15,000
Hama	2,000	3,500	1,500
Homs	2,500	5,000	2,500
Latakia	2,000	4,000	2,000
Zabadani	250	1,250	1,000
Other towns	6,050	6,050	-
	54,000	97,800	43,800

As for the rural telephone network, an appropriation of L.S. 1.5 million has been allocated for the installation of 5,000 semi-automatic telephone lines to facilitate intervillage communications.

In addition to these projects, there are other plans for wireless communications, such as:

1. The building of a transmission station in Dimas for which an allocation of L.S. 750,000 has been made. This station will be complete by the beginning of 1963 when an annual net profit of L.S. 200,000 is expected.
2. A receiving station in Sibina. An appropriation of L.S. 1,100,000 has been allocated for this project, of which L.S. 525,000 will be spent in the first year and the rest in the following year. The station is expected to start operations in the beginning of 1963 and yield an annual net income of L.S. 235,000.
3. A scatter system project between Cairo and Damascus. This project will cost L.S. 2,500,000 and is expected to yield an annual income of L.S. 1 million beginning in 1963.
4. Damascus-Beirut wireless project. An amount of L.S. 660,000 has been appropriated for this project which is to be completed in two years.

Table (63) shows the distribution of the investments:

TABLE (63)

Distribution of Investments for Wireless and Telecommunication Projects

	1960/61	1961/62	1962/63	1963/64	1964/65	Total
Transmission station in Dimas	0.750					0.750
Receiving station in Sibina	0.525	0.575				1.100
Expansion of telephone network with equipment	0.250	0.300				0.550
Scatter system project Damascus-Cairo	2.100	0.375				2.475
Damascus-Beirut wireless	0.260	0.400				0.660
Expansion of telephone network with equipment and reinforcement equipment	2,000	11.000	5.500	2.500	3.500	24.500
Connection of automatic exchanges between towns	0.300	0.300	0.300	0.300	0.300	1.500
Expansion of telephone networks between the cities of Syria and other countries	2.900	4.600	3.000	10.050		11.550
Expansion of telegraph networks between the cities of Syria and other countries	0.950	1.500	0.950	0.350		3.750
Automatic telephone calls between large cities	1.350	2.200	1.350	0.600		5.500
Rural telephone networks	0.500	0.500	0.500	0.500	0.500	2.500
Total	11.885	21.750	11.600	5.300	4.300	54.835

Postal System

The Five-Year Plan for the postal system will realize the following objectives:

- a. Increase the number of postal centers from 60 to 88, a 48 per cent increase over the base year.
- b. Equip a number of postal centers with automatic postal instruments.
- c. Secure a sufficient number of motor vehicles for transportation of mail to and from remote villages.

The cost of this plan is estimated at L.S. 4 million, half of which will be in local currency and half in foreign currency.

Table (64) . shows the distribution of investment in the five years of the plan:

TABLE (64)

Postal Projects
(Figures in L.S. 1,000)

Project	1960/61	1961/62	1962/63	1963/64	1964/65	Total
Buildings	250	250	500	500	500	2,000
Equipment	440	60				500
Means of transportation	250	250	250	375	375	1,500
Total	940	560	750	875	875	4,000

Tartus Port

The purpose of constructing a port in Tartus is to create a harbor for the central and southern districts of the Country which presently use the port of Latakia. Besides shortening the distance for transportation of goods by 90 kilometers, this port will open another outlet onto the Mediterranean Sea.

The plan aims at building a principal breakwater 2,300 meters long, and a secondary breakwater 1,550 meters long; also the building of a dock 660 meters long, and 4 meters in depth, with a basin which will permit, in the future, the building of deep-water docks with a maximum length of 3,100 meters. The project, as well as the supplementary works will cost L.S. 33 million.

The project began in April this year and completion is expected in six years. The following table (65) shows the distribution of the investment necessary for the plan in five years:

TABLE (65)

Investment for Tartus Port in Five Years

(Figures in L.S. Million)

Year	Local Currency	Foreign Currency	Total
1960/61	2.9	3.9	6.8
1961/62	3.5	2.6	6.1
1962/63	3.5	2.7	6.2
1963/64	4.5	2.8	7.3
1964/65	3.5	2.9	6.4
Total	17.9	14.9	32.8

Airports

The present airport of Damascus no longer meets the requirements of Syria. The technical characteristics of the airport are far from being consistent with present day aviation requirements. This fact compelled a large number of aviation companies to transfer their lines to other neighboring airports, notwithstanding the fact that the country has the right to impose upon aviation companies whose planes fly over its territory, the requirement to land at the country's airports if the technical characteristics are available. For this reason, an amount of L.S. 35 million has been appropriated in the development plan for transportation and communication for the building of a new and modern airport in Damascus. The total amount appropriated for the expansion of airports in Syria in five years was L.S. 40 million.

Table (66) shows the distribution of these appropriations among the years of the plan.

TABLE (66)

Airport Expenditures
(in L.S. 1,000)

	1960/61	1961/62	1962/63	1963/64	1964/65	Total
New Damascus Airport	3,100	14,300	7,000	10,000	500	34,900
Aleppo Airport	640	1,200	200	100	60	2,200
Deir-Ez-Zor Airport	100	500	300	100	100	1,100
Navigation Equipment	60	540	600	105	-	1,305
Transportation Equipment	100	200	195	-	-	495
Total	4,000	16,740	8,295	10,305	660	40,000

PART FIVE

EDUCATION

The Five-Year Plan 1960/1961 - 1964/1965 for education involves the following:

- Projects for the different levels of education
- Construction projects under the Organization of Educational Buildings
- Projects for institutes of higher education
- Projects for universities and missions

The following table (67) shows the distribution of investments for the five years of the plan:

TABLE (67)

Investment in Educational Projects for the Five Years of the Plan
(Figures in L.S. 1,000)

Projects	Investment
Projects for the different levels of education	36,287
Construction projects under the Organization of Educational Buildings	35,000
Projects for institutes of higher education	8,800
Projects for universities and missions	20,000
Total	100,087

CHAPTER I

PROJECTS FOR THE DIFFERENT LEVELS OF EDUCATION

The Ministry of Education laid down its Five-Year Plan (1960/61-1964/65) on the basis of the rate of increase of admittance to primary schools. The rate will increase from 67 per cent of total students in the base year (1960/1961 scholastic year) to about 77 per cent in the fifth year, not including the admittance of children to private schools, which can be rated at about 10 per cent.

Expansion in various stages of education, particularly in professional (intermediate and secondary) education, as well as in technical education, were also taken into consideration when laying down the five-year educational plan.

Expansion in technical education also involves the procurement of tools and equipment as well as raw materials. The intention is to create an industrially trained generation in order to serve the industrial, commercial, building and development movement which Syria aims to achieve.

The Ministry has laid down plans to prepare the teachers necessary for primary education as well as to safeguard the health of the students throughout all stages of education.

Necessary investments

Table (68)) shows the investment necessary for the Ministry of Education's five-year projects, estimated at L.S. 36,387 million distributed as follows:

TABLE (68)

Investment for Ministry of Education's Projects in the Five Years of the Plan

(In L.S.1,000)

1960/1961	7,820
1961/1962	7,014
1962/1963	6,999
1963/1964	6,836
1964/1965	7,618

Objectives

The educational projects plan to establish about 3,504 new classrooms within the Five-Year Plan, constituting 25 per cent of the total of present classrooms in the Ministry of Education.

classes

The classrooms that will be established within this plan, and the percentage of increase are shown in Table (69).

TABLE (69)

Percentage Increase in Classrooms by end of Plan

Education	Number of classes	Percentage Increase Over 1959/1960
Elementary	2,427	16
Intermediate general	583	95
Secondary general	112	42
Normal, male and female	50	96
Intermediate industrial	116	187
Female intermediate	28	140
Secondary industrial	117	450
Female secondary	19	271
Secondary commercial	52	260
Total	3,504	

increase in number of students

The five-year educational plan will increase the number of students in various stages of education by about 131,968 male and female students, an increase of 33 per cent over the present number of students.

The annual increase in the number of students in each stage of education during the Five-Year Plan is as follows:

TABLE (70)

Percentage Increase in Students by end of Plan

Education	Increase	Percentage Increase Over 1959/1960
Elementary	90,462	25
Intermediate general	23,372	96
Secondary General	3,999	40
Normal, Male and female	1,793	107
Intermediate industrial	4,659	185
Female intermediate	1,070	148
Secondary industrial	4,112	443
Female Secondary	703	431
Secondary commercial	1,798	251
Total	131,968	

graduates

The number of graduates within the five-year period from various stages of education is expected to reach 388,823 students, distributed as follows:

TABLE (71)

Increase in Graduates over 1959/1960 in the Five Years of the Plan

First Year -	57,093 students, or 146 per cent of the total graduates in 1959/1960.
Second Year -	69,616, or 178 per cent of the total graduates in 1959/1960.
Third Year -	82,397, or 211 per cent of the total graduates in 1959/1960.
Fourth Year -	88,949, or 228 per cent of the total graduates in 1959/1960.
Fifth Year -	90,768 or 232 per cent of the total graduates in 1959/1960.

The number of graduates from different schools and the percentage of increase is as follows:

TABLE (72)

Number of Graduates and Percentage of Increase over 1959/1960

Education	Total Graduates	Graduation in Fifth Year	Percentage of Increase Over 1959/1960
Elementary	326,823	74,398	241
Intermediate General	35,064	9,164	193
Secondary General	12,020	2,743	112
Normal, Male and female	3,349	907	176
Intermediate Industrial	5,121	1,442	570
Female intermediate	1,352	360	419
Secondary Industrial	2,902	1,040	102
Female Secondary	525	189	900
Secondary Commercial	1,667	535	753
Total	388,823		

new admittances

Admittances to the various stages of education are expected to reach 488,489 during the next five years, distributed as follows:

TABLE (73)

Increase in Admittances over 1959/1960 in the Five Years of the Plan

First Year -	89,473 students, or 107 per cent of total admittances in 1959/1960.
Second Year -	93,901 students, or 112 per cent of total admittances in 1959/1960
Third Year -	97,822 students, or 117 per cent of total admittances in 1959/1960.
Fourth Year -	101,709 students, or 122 per cent of the total admittances in 1959/1960.
Fifth Year -	105,584 students, or 126 per cent of the total admittances in 1959/1960.

Admittance to the different schools and the percentage of increase is as follows:

TABLE (74)

Number of Admittances and Percentage of Increase over 1959/1960

Education	Total Admittance	Fifth Year Admittance	Percentage of increase over 1959/1960 Admittance
Elementary	371,990	74,398	110
Intermediate General	69,472	18,320	215
Secondary General	21,401	5,774	169
Normal, Male and Female	4,750	950	321
Intermediate Industrial	8,591	2,492	242
Female Intermediate	2,148	623	433
Secondary Industrial	6,076	1,816	360
Female Secondary	1,060	303	384
Secondary Commercial	3,001	908	230
Total	488,489		

increase in number of students

The number of students in all stages of education will go up from 398,713 in the 1959/1960 scholastic year to 528,837 in the fifth year of the plan, 1964/1965, a rate of increase of 35 per cent.

The following table (75) shows the increase in the number of students in the different schools:

TABLE (75)

Number of Students in the Different Schools and the Percentage of Increase by end of Plan over 1959/1960

Education	1959/1960	1964/1965	Percentage of Increase
Elementary	357,632	446,388	25
Intermediate general	24,362	47,734	96
Secondary general	9,992	13,853	49
Normal education	1,680	3,473	107
Intermediate industrial	2,517	7,176	185
Intermediate female	722	1,792	148
Secondary industrial	929	5,041	443
Female secondary	163	866	431
Secondary commercial	716	2,514	251
Total	398,713	528,837	

CHAPTER II

CONSTRUCTION OF SCHOOL BUILDINGS

Law No. 150 of 1958 which created the Organization of Educational Buildings, entrusted the task of building schools wholly to this Organization.

A large number of the buildings used at present as schools are rented and unsuitable for schools. The following table (76) shows the number of classrooms in the state-owned school buildings and rented school buildings:

TABLE (76)

	Number of Classrooms in State-Owned Buildings	Number of Classrooms in Rented Schools
Elementary education	7,770	7,200
Intermediate and secondary	640	240
	8,410	7,440

There are no state-owned buildings for technical education, and the buildings used at present are not suitable.

A plan has been laid down for L.S. 35 million in the next five years, distributed as shown in Table (77).

TABLE (77)

Investment in School Building Construction in the Five Years of the Plan

	L.S. 1,000
Building 2,000 classrooms for elementary ed[illegible]on	18,000
Building 400 classrooms for intermediate and [illegible]arey education	4,000
Building 5 schools of normal education	1,000
Building 20 schools for industrial and professional education	12,000
Total	35,000

The distribution of this amount will be at the rate of L.S. 7 million every year.

CHAPTER III

PROJECTS FOR HIGHER EDUCATION, UNIVERSITIES AND MISSIONS

The plan aims at establishing higher professional colleges on the same lines of colleges in Egypt, to be directly supervised by the Ministry of Education. This is to help the universities in graduating specialiazed technicians that are needed by the country.

The cost of this project in five years is shown in Table (78).

TABLE (78)

Investment for Higher Education in the Five Years of the Plan

	L.S. 1,000
Higher Agricultural Institute in Damascus	2,000
Higher Institute for Commerce in Aleppo	600
Fine Arts Institute in Damascus	1,600
Industrial Institutes in Aleppo and Damascus	4,600
Total	8,800

In addition to the Damascus University, a new university has been instituted in Aleppo including a School of Engineering and a School of Agriculture.

The investment necessary for the program of universities in five years, as well as for scientific missions abroad is estimated at L.S. 20 million. This project involves the erection of buildings and a campus, in addition to the furnishing of equipment for the two universities, especially for the schools of engineering, agriculture and science.

PART SIX

HOUSING AND GENERAL SERVICES

Chapter I

HOUSING AND GENERAL SERVICES

INVESTMENT NECESSARY FOR SERVICES DURING NEXT FIVE YEARS

It was natural when aiming at doubling our national income during a ten-year period to give preference to productive projects in the distribution of investments for the plan. But the social objectives warranted special attention to increasing and improving present services.

The first Five-Year Plan includes the following services:

1. Health services
2. Tourism and public services
3. Housing
4. Social services
5. Other services

The investment available for this plan is L.S.377 million distributed in the manner shown the following Table (79)(

TABLE (79)

Investment Necessary for Services

(L.S. Million)

	Total Investments in Five Years		
Kind of Services	Public Sector	Private Sector	Total
Health Services	46	10	56
Tourism and Public Services	32	-	32
Housing	15	245	260
Social Services	18	-	18
Other Services	-	11	11
Total	111	266	377

Following is a summary of the objectives and bases for the various service projects:

Chapter II

HEALTH SERVICES

There are at present 1,000 medical doctors in the Syrian Arab Republic, that is, one doctor per 4,500 citizens. This is an inadequate number of doctors in comparison with other countries and should be increased to one doctor for every 1,500 citizens. This aim, however, cannot be realized during the next Five-Year Plan, simply because the average number of graduates from the Faculty of Medicine per year is only 60 and this average cannot be increased before the lapse of seven years, that is, the number of years needed for graduation. The number of new candidates admitted will be increased from now on in order to achieve the required objective.

As for nurses, there are at present 500 nurses registered at the Ministry of Health, at the rate of one nurse for every 8,900 citizens. In the fifth year, our need will be for 1,000 nurses, at the rate of about one nurse for every 5,000 citizens. Achieving this goal will not be difficult owing to the short training period estimated at two or three years.

There are 225 midwives in the country. The number in the fifth year should reach 1,000, that is, one midwife for every 5,000 citizens.

The projects of the health services have been laid down on the basis that each doctor can take care of 15 hospital beds. As the number of doctors that will graduate annually during the years of the Plan will not exceed 60 doctors, and not all these doctors can be taken for Government health services, the number of beds that can be added annually during the Five-Year Plan will not exceed 400 beds. This means that the present number of beds which is 2,930 will be increased by about 2,000 beds at the end of the Five-Year Plan, assuming that 27 doctors of the annual graduates will be employed by the Ministry of Health.

The Plan aims to build new hospitals and expand the old ones. The plan also aims at building nursing schools in Damascus, Deir-Ez-Zor and Latakia, and the building of sanatoriums in Hasakeh, Deir-Ez-Zor and Aleppo. There are also plans to build 200 rural health centers and 24 mobile health units to serve the districts that are lacking such services

Chapter III

PUBLIC SERVICES AND TOURISM

Public Services

Public services comprise the provision of potable water in the towns and countryside, the provision of a sanitary sewage disposal system and other municipal services.

The present number of people who benefit from drinking water projects amounts to 65 per cent of the town population and 18 per cent of the rural centers population. The general average in Syria is 32 per cent of the total population. The Plan aims at raising the ratio of beneficiaries in the Mohafazat centers to 100 per cent and in the rural centers to 52 per cent as soon as possible.

Drinking water projects are laid down on the following basis, the priority of thirsty villages is considered according to the number of inhabitants, the importance of a village from the point of view of tourism, its position in relation to borders or good roads and the possibility of providing one project for several villages. The last-mentioned factor is important in order to save as much as possible in construction, operating and maintenance costs. Thirsty villages will continue having their drinking water supplied by tankers until their drinking water projects are completed.

The sewage disposal projects aim at the extension of such systems within the next ten years to every town whose population exceeds 130,000, in order to raise the health standards of the country.

In addition, individual projects will be undertaken by municipalities for providing other necessary services to the population in all parts of Syria.

Tourism and Holiday Resorts

The Plan aims to improve present centers of tourism and holiday resorts by supplying them with such general amenities as good roads, water and electricity in addition to leisure requirements such as hotels, restaurants, cafes, recreation grounds, gardens, theatres and cinemas. In addition, libraries, museums and fairs will be established.

It is hoped that these projects will lead to the encouragement of tourism and vacationing within the Republic, and to an increase in the number of foreign tourists which was 500,000 in 1958, and consequently to an increase in foreign currency coming from this source.

Chapter IV

HOUSING

There are many factors which contribute to the creation of the housing problem in Syria. The net increase in population, migration of rural population to towns and cities, depreciation in buildings and the social development of families are some of these factors.

The plan aims at building annually about 12,000 housing units, that is, 60,000 units in the coming five years. It is hoped that this number will help to raise the standard of housing in Syria. The Plan has resorted to a decisive solution to the housing problem, which is the production of pre-fabricated housing materials, research for new methods in the building industry and aid to the housing cooperative societies. An amount of L.S. 260 million has been allocated for this purpose, of which the private sector will provide the greatest share.

Chapter V

SOCIAL SERVICES

The plan for social services comprises the following aspects:

1. Services for industrial and agricultural workers.
2. Social services for minors, aged people and invalids, and the improvement of rural industries.
3. Formation and encouragement of cooperative societies.

With regard to the first aspect, the plan for social services aims at improving the relationship between industrial employers and their workers, and between landowners and investors on the one hand and farmers and agricultural laborers on the other. It also aims at helping workmen organize themselves in trade-unions, trains them professionally in order to increase production and secure productive sufficiency and establishes workmen's sanatoriums and pharmacies.

In the field of social affairs, the Plan aims at raising the social standard of all classes by means of the formation of societies and clubs and which will receive financial and technical aid to realize their objectives. The Plan intends to strengthen the social guidance system by enabling it to create a spirit of social equality among citizens and encourage them to perform social services to the needy and invalids according to the principles of the social, democratic and cooperative society.

The Plan gives special attention to health, social, agricultural and housing services for rural inhabitants in order to improve their economic and social status. Particular emphasis is laid on encouraging rural industries.

In the field of cooperation, the Plan aims at extending the cooperative system to various economic activities, especially agriculture, in order to enable land reformation laws to have the desired results. The work of cooperative societies will not be limited to production but will include consumption and the offering of various services.

The following embodies the objectives of the Five-Year Plan in the field of social services:

1. Building an institute for the aged and invalids.
2. Establishing workers' sanitoriums and pharmacies.
3. Establishing social centers.
4. Establishing institutions for juveniles.
5. Creating a higher institute for social services.
6. Creating agricultural credit cooperatives.
7. Operations for the encouragement of rural industries.